A STUDY OF FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE

Dissertation submitted for partial fulfillment of the rules and regulations

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CERTIFICATE

This is to certify that the dissertation titled, **"A STUDY OF FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE"** is the bonafide work of **Dr. M.RAMKUMARVIHRAM,** submitted in partial fulfillment of the requirements for M.D. Branch-XVIII [Psychiatry]

Examination of The Tamilnadu Dr. M.G.R. Medical University, to be held in May 2018.

The Director,
Institute of mental health
Chennai – 600 010.

The Dean,
Madras Medical College
Chennai – 600 003.

CERTIFICATE OF THE GUIDE

This is to certify that the dissertation titled, **"A STUDY OF FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE"** is the bonafide work of **Dr. M.RAMKUMARVIHRAM**, done under my guidance submitted in partial fulfilment of the requirements for M.D. Branch-XVIII [Psychiatry] examination of the The Tamilnadu Dr. M.G.R. Medical University, to be held in May 2018.

Dr. A.KALAICHELVAN, M.D.
Professor,
Madras Medical College,
Chennai.

DECLARATION

I, **Dr. M.RAMKUMAR VIHRAM,** solemnly declare that the dissertation titled, **"A STUDY OF FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE"** is a bonafide work done by me at the Institute of Mental Health, Chennai, during the period from March 2017 – June 2017 under the guidance and supervision of **Dr. SHANTHI NAMBI,** M.D., Professor of psychiatry, Madras Medical College.

The dissertation is submitted to The Tamilnadu Dr. M.G.R. Medical University towards partial fulfilment of requirement for M.D. Branch XVIII [Psychiatry] examination.

Place :

Date : **Dr. M. RAMKUMAR VIHRAM**

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ABBREVATIONS

NIMHANS	-	National Institute of Mental Health and Neurosciences
WHO	-	World Health Organization
DALY	-	Disability Adjusted Life Years
GIT	-	Gastrointestinal Tract
BAC	-	Blood Alcohol Concentration
VTA	-	Ventral Tegmental Area
GABA	-	Gamma Amino Butyric Acid
NMDA	-	N Methyl D Aspartate
DSM 5	-	Diagnostic and Statistical Manual 5^{th} edition
ICD 10	-	International Classification of Disorders 10^{th} edition
NS	-	Novelty Seeking
ASPD	-	Anti Social Personality Disorder
SADQ	-	Severity of Alcohol Dependence Scale
DUSOCS	-	Dukes Social Support and Stress scale

INTRODUCTION

Alcoholism is one of the major health related problems in India. It is characterized by much significant psychological, physiological and social dysfunctions which were associated with excessive and persistent use of alcohol. It is not only chronic but progressive disease characterized by the loss of control on their use of alcohol associated with psychological, physical, social and legal consequences. Consumption of alcohol has been rising greatly over the past 4 decades and also accompanied by rise in the physical, social and psychological problems related to the use of alcohol.[1]

Due to the increase in production, promotion, distribution and availability of the alcohol along with the rapidly changing values in society has resulted in the increase of problems due to alcohol use and it emerged as an important public health problem in our country. On the other side, absence of proper rational policies and also the belief in government that the revenue from alcohol is useful for the society development were all aggravated the problems further more. In the reality, revenues from alcohol yielded only immediate gains but the losses and the impact of the rise in alcohol consumption persist to impair the society on a long term basis.[2]

NIMHANS in the year 2006 did a study in Bangalore sponsored by WHO – SEARO (World Health Organization – South East Asia Regional Office). They found that 33% of adult males consume alcohol regularly. They also brought into the light the drinking pattern in women. They said 2% of

women consume alcohol regularly. Urban based women have greater problems due to alcohol use.[2]

According to WHO, almost 2 billion people in the world consume alcohol related beverages and approximately 76.3 million (nearly 1/3rd) have diagnosable disorder due to use of alcohol.[3] And also alcohol as a cause of death in nearly 3.2% of all mortality and also resulted in 4% loss of total DALYs (i.e around 58 million)[4.] WHO also estimated that ¼ th to 1/3 rd of male population consume alcohol in south east Asian countries[5] and the trend of alcohol use increasing among females.[6]

In India 62.5 million people consumed alcohol as per an estimate by WHO in 2005. In that 17.4% were dependent to alcohol use.[7] And also 20 – 30 % people admitted in hospital were due to problems related to alcohol.[8]

With the background of this much magnitude of problem in our country, people who seek treatment for alcohol use problems are also limited. Among them most of the people relapse into the drinking pattern frequently. There are several factors identified related to the relapse of alcohol drinking. That will be discussed in detail in the next section. Alcoholism is a chronic as well as a relapsing disorder. Alcohol dependence was characterized by the prolonged cause of problems related to alcohol and persistent relapse vulnerability. Even with improvement of multiple domains in life with treatment, the relapse risk continues to be high after treatment. One important feature noted in patients before relapse is the urge to drink alcohol i.e. craving.[9]

This chronic disease has many harmful consequences. There are some conditions like alcoholic cirrhosis of liver, alcoholic gastritis that are wholly attributable due to alcohol use. And also there are many diseases in which use of alcohol as a contributory factor like many forms of cancer, epilepsy, cardio vascular disease, importantly almost any forms of accidents / injuries.[10] The WHO reported recently that the use of alcohol was an important attributable risk factor for not less than 60 varieties of major disorders.[11]

The most important challenging aspect in assessing the outcome of treatment and the rate of relapse will be the lack of clarity regarding the relapse definition. It varies according to clinicians, researchers and among clients, importantly. Exploring these gaps is very important to make a uniform pattern of treatment and to develop relapse preventions strategies.

Even after that, treatment seeking after relapse is again a problematic area. One study states than relapse following treatment reaches 75% in first 3 – 6 months period.[12]

It is very important to understand these treatment barriers for the effective maintenance of their abstinence. Many studies found that adults with alcohol related problems postpone their treatment and they underutilize the resources. It is very much important to understand the barriers to treatment by people with alcohol dependence. Saunders et al categorized barriers as person related barriers and treatment related barriers. These were less explored areas that need to be given attention.

So, in our study we tried to find various demographic factors associated with the risk of relapse in alcohol use and also we tried to find various factors contributing to delay in their treatment seeking after relapse. At last, we tried to compare the various risk factors associated with the relapse between people who present early to treatment with the late treatment seekers.

REVIEW OF LITERATURE

When we refer alcohol, it is ethyl alcohol or ethanol. Though it has a temporary positive effect on mood, in the long run it leads to a range of mental health problems.

ETHANOL AND ITS METABOLISM:

Ethyl alcohol is a molecule, simple in its structure C2H5OH.

It is absorbed well through mucosa of GIT, particularly in proximal part of our small intestine. It enters rapidly into the blood stream and distributed all over the body as it is highly soluble in water.[14]

Though 2 – 10% of ethanol excreted via lungs, sweat and urine, the rest is metabolized by liver through its enzyme alcohol dehydrogenase and converted into acetaldehyde. This acetaldehyde is rapidly converted into water and carbon dioxide through the action of aldehyde dehydrogenase. The alcohol dehydrogenase decreases the blood concentration of alcohol by 4 – 5 mmol/L ethanol per hour. This is again equal to about one drink in a hour.[15]

CONCENTRATION OF ALCOHOL

Alcoholic beverages are of various types. Different beverages contains different amount of alcohol. The below table given the percentage of alcohol in different beverages and their quantity of standard drink.

S.No.	Alcoholic Beverage	Alcohol content	Amount of standard drink
1	Standard Beer	3 – 4 %	300 – 400ml
2	Strong Beer	8 – 11 %	100 – 150ml
3	Wine	5 – 13 %	100 – 250ml
4	Distilled spirits like Gin, Rum, vodka, Whisky	40%	30ml
5	Fortified Wine	14 – 20 %	60 – 90ml
6	Arrack	33%	40ml
7	IMFL – Indian made foreign liquor	42.8%	30ml

Source: Lal R. Substance Use Disorders[16]

BAC (Blood Alcohol Concentration) is a measure that gives the percentage of alcohol in blood. BAC of 0.1% signifies 1 part of alcohol in every 1000 parts of blood. The physical and psychological effect varies according to the alcohol concentration in blood. A buzzed feeling occurs in a concentration of 0.02 to 0.06%. The limit of intoxication to operate motor

vehicle is 0.08% legally. BAC varies between genders due to the body size, weight, hormones and enzymes makeup.[14]

The standard drink usually contains 10 – 12 grams of ethyl alcohol which is approximately equivalent to 12 ounces of beer, 5 ounces of Wine, 1.5 ounces of Spirits. In an average adult weighing 70kg with average body fat, this one standard drink raises the alcohol level in blood approx. 15 – 20mg / dL or 0.015 to 0.020g /dL. This is the same quantity which would be metabolized in an hour.[14]

EFFECTS OF ALCOHOL ON BRAIN:

Alcohol even in low doses increases the activity of the inhibitory GABA system all over the brain. This causes somnolence, muscle relaxation and feelings of intoxication. These circuits were adapted during the development of tolerance. The constant presence of GABA facilitatory effect leads to reduction in GABA secretion. This decreased activity of GABA results in insomnia and anxiety during withdrawal of alcohol. And also alcohol diminishes the action of stimulating Neuro transmitter system i.e. NMDA receptors. Withdrawal symptoms are also due to the increased activity of these glutamate pathways. And also drinking alcohol releases dopamine and its activity increased at their synapses. These changes especially in the area of nucleus accumbens and VTA(Ventral Tegmental Area) contribute to the effects of rewarding due to alcohol. And this pathway associated with disinhibition during intoxication and craving for alcohol during withdrawal. Not only GABA, glutamate and dopamine, alcohol also increases the release of Beta endorphin like opioid

peptides which are responsible for rewarding and also to increase dopamine release. These are all associated with craving. And also alcohol effects serotonin, Epinephrine, adenosine systems, cannabinoid systems, acetylcholine as well as the systems related to stress eg.CRH (Corticotrophin – Releasing System).[17]

ACUTE EFFECTS AND ALCOHOL AT DIFFERENT LEVELS OF BAC:

BAC	Symptoms
< 50mg / dL	Relaxation Talkativeness Some impairment in motor coordination and thinking ability
50 – 150 mgs / dL	Altered mood Impaired judgment and concentration Shyness, friendliness or argumentativeness Sexual disinhibition
150 – 250 mg / dL	Unsteady walking Double vision Nausea Slurred speech Drowsiness Changes in mood, personality and behavior
300 mg / dL	Extremely drowsy Confused / incoherent speech Loss of memory Vomiting Dyspnea
>400 mg / dL	Shallow, slow breathing Coma Death

Adapted from Table 163.1 in Merritt's Neurology[18]

EFFECTS OF ALCOHOL ON ORGANS:

The long term effects of alcohol on organs were discussed below

NERVOUS SYSTEM:

Mild anterograde amnesias loss of memory of events occurred after intoxication. Wernicke – korskoff's syndrome occur in 1% which exhibits as confusion, ataxia and ophthalmoplegia. Cognitive deficits like problems with memory, learning, problem solving, and abstraction. And Peripheral neuropathy that affect the peripheral nerves causing numbness and pin pricking sensation.

SLEEP RELATED PROBLEMS:

Alcohol can affect the sleep pattern causing intensification of sleep apnea, trouble falling asleep and frequent awakenings.

CARDIOVASCULAR SYSTEM:

In cardiovascular system, chronic consumption of alcohol causes Hypertension: increase in blood pressure, Hypercholesterolemia: increase in serum cholesterol level, Cardiomyopathy and Temporary arrhythmias which is also known as (Holiday Heart)

MALIGNANCIES:

The following malignancies are frequently related with chronic use of alcohol. They are Head and neck cancers, Oesophageal cancer, cancer of rectum and breast cancer.

GIT:

In gastrointestinal system, alcohol may produce Acute hemorrhagic gastritis, Pancreatitis and Fatty infiltration to hepatitis and cirrhosis of liver leading to hepatic failure.

SKELETAL SYSTEM:

Alcohol doesn't spare skeletal system also. It cause decrease in bone density, so leading to Fractures.

HEMATOLOGY:

In blood, alcohol use decrease WBC, platelets and mobility of granulocytes, therefore it compromise the Immune functions of the body.

FATAL ACCIDENTS:

Most of the road traffic accidents were related to alcohol.

PREGNANCY:

Alcohol consumption during pregnancy causes Low birth weight babies, Spontaneous abortions and premature deliveries. Also causes Fetal alcohol syndrome, a rare complication. It is a severe form of fetal alcohol spectrum disorders. Babies have problems with their hearing, vision, attention span, memory and unable to learn and communicate.[17]

Thus the list is expanding as the magnitude of alcohol use increasing.

EFFECTS OF ALCOHOL ON DAY TO DAY FUNCTIONING:

The use of alcohol causes impairment in various domains of their life. Major domains were discussed below:

AT SCHOOL:

In school, alcohol use causes inefficiency, poor performance, frequent absence, physical fights and accidents in school. It leads to suspension from school and affect their education level.

AT FAMILY:

In family, use of alcohol causes frequent fights with their spouse and others, neglect of their family duties, physical violence with family members, long absence and running away from home. It leads to rejection from their family members.

AT SOCIAL LEVEL:

In society, it leads to distance them from their friends, misbehaviour with others, decreased social reputation, loss of position and social isolation. The lack of money leads to constant borrowing and inability to return borrowed money, that in turn leads to frequent fights, quarrels and theft.

LEGAL:

The use of alcohol leads to various legal consequences like disobeying rules, drunken driving, involve in thefts and petty crimes, Involvement with

criminal gangs. That again leads to arrests and court cases, conviction and imprisonment.

Source: Adapted from WHO (2003)[19]

DISORDERS DUE TO ALCOHOL USE:

As like other psychoactive substances, use of alcohol produces a range of mental disorder which include alcohol use disorder, alcohol abuse, alcohol intoxication, alcohol withdrawal, alcohol withdrawal delirium, alcohol induced psychotic disorder, alcohol - induced bipolar disorder, alcohol induced depressive disorder, alcohol – induced anxiety disorder, alcohol – induced sleep disorder, alcohol – induced sexual dysfunction, alcohol induced mild or major neuro cognitive disorder.[20]

Of these disorders the disorder of our interest is alcohol dependence.

ALCOHOL DEPENDENCE:

In DSM 5, alcohol dependence was renamed as alcohol use disorder. But in ICD 10, we still have it as alcohol dependence syndrome.

The diagnosis of dependence is based on the collective history of sequence of problems, which indicate a very much increased important place occupied by the substance in life and possibly with the evidence of physical symptoms of withdrawal. But the physical withdrawal symptoms are not required for the diagnosis.[14]

Alcohol dependence is diagnosed when the person has 3 or more of the following in the past 1 year or for at least 1 month.

1. He / She cannot quit or control the quantity he / she drink. i.e. loss of control or compulsion

2. He / She have strong desire or compulsion drinking i.e craving.

3. He / She need to drink more to get the same effect i.e tolerance.

4. Physical withdrawal symptoms when he / she stop drinking.

5. He / She spend a lot of time on drinking or given up other activities.

6. He / She continue to drink even after it harm their relationships and cause physical problems.[21]

The criteria for alcohol dependence have no relationship with the quantity of alcohol the person drinks, duration of drinking and the type of drink they use. They are addicted to the alcohol at the point when they lose their ability to control their drinking.

STAGES OF ALCOHOLISM :

E.M.Jellinek proposed but now accepted widely is the disease model of alcohol addiction. He developed the stages of progression of alcoholism. He said it has four stages. They were pre alcoholic stage, early stage alcoholism, middle stage alcoholism and late stage alcoholism.

In Pre alcoholic stage, he / she start drinking alone or socially and use it as stress coping and to relieve anxiety. They gradually develop tolerance.

Early stage alcoholism, which is the first stage in problematic drinking. They drink more than their routine and find reasons to drink alcohol. The tolerance to alcohol gradually increases. They often think that drinking makes them better functioning in their life.

Middle stage alcoholism: In this middle stage, they gradually begin to become dependent on alcohol. They suffer from withdrawal symptoms if not taken alcohol. They drink to avoid withdrawal symptoms than to achieve happiness. They lose their ability to control the amount of alcohol. They afraid to admit the problem. In this stage they begin to have problems in work / school / relationship.

Late stage alcoholism: In this stage, they develop physical problems like malnourishment, liver, heart related problems. And also they develop mental health problems like anxiety or depression. They are on the verge to lose their job. They are running out relationships. They are so obsessed with their drinking. Finally they may / may not realize their problem[22]

AETIOLOGY OF ALCOHOL DEPENDENCE:

Previous studies state that 40 – 60 percent of the risk of alcohol dependence will be explained by genes itself and the remaining by gene – environment associations.[23]

GENETIC FACTORS:

1. Genetic variations (polymorphism) in alcohol metabolizing enzymes have protective effect on dependence.

2. Genes associated with disinhibition, impulsivity, sensation seeking. Like GABRA 2, CHRM 2, DRD 2.

3. People with low sensitivity to alcohol and their related genes like SLC6A4, KCNMA1, GABRA6.

Hence those who have family history of alcohol use disorder have the higher risk.[17]

ENVIRONMENTAL FACTORS:

The environment factors that favor drinking alcohol include Alcohol availability, their attitude towards drinking, peer pressure, Stress and coping strategies. The models of drinking and the laws and regulatory frameworks in their surroundings favor for alcohol use[24].

CAUSES FOR ALCOHOLISM EXPLAINED BY PSYCHOANALYTIC THEIRY:

Psychoanalytical explanations of the causes of alcoholism involves three major views

a) The Freudian view

b) The Adlerian view and

c) The conflict theory

The Freudian view relates alcoholism as repressed urges, oral dependency, need for security, self-punishment and parental hatred.

The Adlerian view is that alcoholism represents a striving for power which compensates for a pervasive sense of inferiority. It is assumed that alcoholics derive their feelings of inferiority from a childhood in which over indulgent parents did not permit the child to learn to cope with the difficulties of adult life. The alcoholic turns to alcohol to enhance feelings of self-esteem and prowess.

The conflict theory states that alcoholism develops as a response to an inner conflict between aggressive impulses and dependency drives.[25]

The issue of narcissistic disturbances has been addressed by a number of investigators. Chronic alcoholics assume extreme and self-defeating attitudes and behavior in satisfying their needs and wishes. It is generally agreed that chronic use potential is maximal for an explicit narcissistic personality although an antisocial personality is also likely to be exposed to illegal substances. However it is noteworthy that neither character traits are necessary conditions for alcohol use.[26] (Munjal et al., 1992)

Another concept brought forward is the self-care deficit[27] (Khantizian EJ & Mac JE 1983) implying an inability for alcoholics to anticipate and avoid harm. The sense of personal weakness and failure generated by a single drink, following abstinence attempts (abstinence violation effect) is one of the considered perspectives of relapse.[28] (Marlet GA, 1985)

Apart from Freud's formulations of alcohol dependence as a manifestation of oral regression, Kraeplin (1919)[29] considered it as a symptom of depression, Rado (1933)[30] considered it as a masturbatory equivalent and Abraham as a defense against homosexuality.

Evidence to support the psychoanalytical theories is inconclusive since it is difficult to devise experimental tests to test these theories. Nevertheless, in some cases the application of psychoanalytical ideas has been useful in the treatment of alcohol dependence.

PERSONALITY TRAIT THEORIES

Personality trait theories maintain that though all persons who misuse alcohol need not have the same characteristics, in the pre alcoholic stage, a personality pattern or a constellation of traits should be discernable and correlate with the predisposition towards alcohol dependence.

Regarding alcohol and substance use in adolescents, Zuckerman (1983)[31], proposed the sensation seeking theory. Khanzitian (1985),[32] espoused the self-medication hypothesis emphasizing the role of alcohol in regulating unpleasant effects. In alcoholism, many authors have evaluated the dynamics of locus of control (Rotter, 1966)[33]. A belief in internal control would be indicative of an individual who perceives events as being a consequence of his or her own behavior. By contrast, externally oriented individuals perceive events as not being contingent upon personal actions, but rather influenced by luck, chance or some other power. Marchiori et al (1990)[34], tried to measure

emotional dependence, orientation of locus of control, **parental bonding** perceptions and personality disorders. They found no significant differences between alcoholics and non – alcoholics in parental perception and locus of control. However the Dependence self rating score in alcoholics was significantly higher than the controls.[34]

Mc Clelland et al (1976), investigated heavy college drinkers and found they were likely to have a high need for power, as measured by the stories they told about a series of illustrations. While McClelland's work was some of the first to apply modern personality techniques to studying drinking, alcoholism research has moved beyond that. First projective tests have lost favor in psychology; there is too much ambiguity in coding different responses to a stimulus picture. Second, McClelland's effort rarely dealt with alcoholics per se, using instead heavy drinking college students or men in working class bars as subjects.[35]

MacAndrew (1981), found that male alcoholics had an assertive aggressive, pleasure seeking character which makes alcoholics resemble criminals.[36]

Bottlender et al (2006) investigated the prevalence of personality disorders in 237 detoxified alcohol dependent patients after sub typing this sample according to Babor's Type A or B. Type B patients had significantly more often any cluster A and B personality disorder, and significantly specifically more often a borderline, antisocial and avoidant personality

disorder.[37] In summary, the Type A or B dichotomy using the criteria of Schuckit et al (1995) was replicated successfully.

Stepp SD et al (2005) assessed the relation between BPD features and problems associated with alcohol use 2 years later in young adults. BPD features were found to significantly predict alcohol use problems 2 years later after controlling for parent's substance use disorders, Axis I psychopathology (including alcohol abuse or dependence), and non – BPD personality disorders.[38]

GENETIC THEORIES

While it had long been observed that familial risk for alcoholism is increased, it was because of twin and adoption studies that a genetic contribution to alcoholism was confirmed (Cadoret and Gath, 1978)[39]. The observation that family members who share half their genes were not more likely to develop alcoholism compared with family who share only a quarter of genes was incompatible with the simple genetic mechanism of inheritance (schuckit et al 1972).[40]

Based on adoption studies, Cloninger et al (1981), suggested the existence of two types of alcoholism, a mostly environmentally triggered late onset type 1 and a male limited type 2 with a high genetic loading, legal problems and moderate alcohol consumption[41].

A potential guide to differentiate depressed alcoholic patients who might need specific treatment for depression could be the typology of Lesch et al (1990). Based on the course of illness, Lesch established four types of

alcoholism, taking into account social, psychic and somatic factors 1. Type 1 is characterized by early withdrawal symptoms and frequent alcohol related psychosis and convulsion; 2. Type 2 exhibit premorbid conflicts and anxiety; 3. Type 3 emerges from a permissive alcohol milieu and show pre alcoholic mood changes; 4. Type 4 has premorbid cerebral injuries and serious social problems.[42]

Grucza RA et al (2006), concluded that Novelty seeking (NS) and familial risk interact so that the risk associated with high NS is magnified in families with parental alcohol dependence and NS is a moderator of familial risk. Accordingly, high NS is strongly associated with alcohol dependence in subjects with a parent diagnosed with alcohol dependence, but low NS may protect against the risk associated with familial alcoholism.[43]

TYPES OF ALCOHOLISM

Sannibale C & Hall W (1998), had evaluated Cloninger's typology of "alcoholism" using the Alcohol Symptom Scale. The Alcohol Symptom Scale classified only 18% of the sample into either type 1 or type 2. There was mixed support for the hypothesized differences between type 1 and type 2 problem drinkers had more symptoms of antisocial personality disorder, more social consequences of drinking and higher sensation seeding scores than type 1 problem drinkers.[44]

Hauser J and Rybakowshi J (1997), delineated three types of alcoholics. Type 1 was characterized by late onset of dependence, low prevalence of familial alcoholism and mild course. Type 2 was characterized by early onset

of dependence, high familial alcoholism in fathers, frequent antisocial personality, severe intensity of alcohol related problems. Type 3 was characterized by early onset of dependence, familial history of psychiatric diseases, severe intensity of alcohol related problems and high prevalence of psychiatric disturbances and somatic diseases. Type 3 may be characterized as alcoholism associated with high predisposition and comorbidity.[45]

Howard MO et al (1997), evaluated studies that applied Cloninger's tridimensional theory of personality to substance abusers and found that factor analyses did not consistently support the tridimensionality of the TPQ. Novelty seeking (NS) traits distinguished alcoholics from non-alcoholics, Type B and Type 2 alcoholics from their Type A and Type 1 counterparts, smokers from nonsmokers and individuals (substance abusers and non-abusers) with and without antisocial personality disorder (ASPD)[46].

Schuckit MA et al (1995), evaluated 1539 alcohol dependent subjects (including 512 women) in an attempt to replicate the Type A or B dichotomy suggested by Babor et al in 1992. The scores in each of the 17 domains and the analyses of the clinical characteristics for Type A and B subjects were, in general, consistent with the earlier onset and more severe course for Type B men and women. The ability of the domains to identify subgroups of alcoholics remained robust even after the exclusion of alcohol dependent subjects with antisocial personality disorder (ASPD) and those with an onset of alcohol dependence before age 25 years.[47]

Midnaik et al in 1992 identified the different perspectives in regard to alcohol use among different people in a community.

1. To the Government – as a source of income
2. To an economist – as an another category of consumer's product
3. To an anthropologist – as a medium for sociability
4. To a public health specialist – as a cause of mortality and morbidity
5. To a common man – as a bottle [48]

RELAPSE:

Alcohol dependence or alcoholism is a major chronic relapsing disorder. Relapse is a phenomenon which is multifactorial. It is mostly due to combination of various factors such as patient characteristics, environmental and the drug rein forcers (Miller et al 1995)[49]

The definition of relapse itself range from a dichotomous outcome to a continuous process based on single transgression to series of transgression behavior (miller et al 1996)[50]

Some authors differentiated between the terms lapse, prolapse and relapse. A lapse is referred to an initial set – back prolapse indicate a consistent behavior that getting back on the track towards the positive direction of behavior change. Relapse is referred to as most severe return to the previous behavior. The ways by which we qualify and quantify the relapse have major

impact on their behavior and further evaluation and management (Witkiewitz et al 2007)[51]

Quantification of relapse differs across the different treatment centers. Many centers refer any drinking as relapse. While few centers define it as drinking more than 50% of that person's drinking quantify before treatment (miller et al 1996)[50]. This tendency to blow it actually worsens the problem i.e return to heavier drinking pattern. This is called as abstinence violation effect, (Marlatt 1985). On the view of specialist on substance use disorder "relapse is the rule" in any de-addiction treatment.[52]

Risk factors for relapse:

Marlatt et al in 1978 did a study on 70 male patients whom relapsed after treatment for the AUD. They categorized those factors into two manor group and 13 specific categories.

Category 1:

Intrapersonal factors:

It includes all the factors related to the risk of relapse reside within the person. It has various subdivisions like coping with anger or frustrations, coping with emotional states which are negative, coping with physical states due to previous use of substance, coping with other physical states which are negative, testing personal control, to enhance positive emotional state, cue mediated temptation and giving in to temptation even in the absence of cues.

Category 2:

Interpersonal factors:

This includes factors that produce relapse that are interpersonal nature. They are interpersonal conflicts that resulted in anger or frustration, other interpersonal conflicts and coping with that, direct and indirect social pressures and to enhance positive emotional states in an situation related interpersonally like celebrations.

Marlatt identified negative emotional state was commonly associated with relapse in their sample.[53]

Sau et al did a study in April 2009 – March 2010 on 284 subjects admitted with history of relapse in a de-addiction Centre in Kolkata, India. They took detoxification treatment earlier in the same center. They identified that high relapse among the subjects with increased age, married, low literacy, and unemployment, and nuclear family, initial alcohol use at early age, long duration of dependence and with no follow up.[54]

They also stated that adulterated heroin i.e Brown sugar was the main drug which was abused in urban area while alcohol was the primary substance use in rural areas. They also stated the age of initiation was between 15 and 20 years, 59.1% were poly drug abusers. And also they stated 31.3% people only took follow up after relapse. They also studied about prevalence of psychiatric illness in their sample. They found 44.7% suffer from anxiety, 30.6% from depression. They also stated that 77.8% reported peer pressure as the very

common cause for relapse. They insisted regular family and peer follow up and social support are important to prevent relapse along with other, rehabilitation.

Leach et al did a literature review in 2013 on interpersonal stress and sensitivity to rejection and also examined how those factors aggravate the individual's risk to relapse. They concluded that those individuals who has high on trait sensitivity to rejection and critical interpersonal environment were particularly has high vulnerability to relapse.[55]

Sharma et al in 2012 did a cross sectional study on factors which affect relapse among substance abusers. They found that more relapse among subjects who are aged less than 30 years, low education, low socio economic status, not employed, history of crime in the past and history of substance use in family.[56]

Another study by Matoo et al on relapse and psychosocial factors in 2009, they found that people who has higher risk fir relapse has previous history of relapse, those who use mal adaptive coping mechanism, those who were exposed to high risk situations and those who experienced more number of life events that are undesirable.[57]

Witkiewitz et al studied about various factors that lead to relapse in 2008. They found that coping behavior and alcoholism were associated strongly and predictors to relapse of drinking behavior[58].

Binu Thomas et al did a study in New Delhi in 2014 on 60 subjects. They conclude that to test one's personal control is the most important risk factor which acts as relapse precipitation.[59]

Shiffman in 1989 stated that combination of distal factors for risk and intermediate background actors help to identify that subjects who might relapse. But when they relapse will be determined by proximal factors of risk. Thus he classified risk factors for relapse.[60]

Proximal risk factors:

"Proximal risk factors include Situational threats to their self efficacy, Craving, Social cue reactivity, Affective states, Stressful life events, Rapid deterioration of their social support and Acute psychological distress

Distal risk factors:

It includes Family history of alcohol use disorder, Severity of alcoholism, Comorbid psychiatric diagnoses, Comorbid substance abuse, Impaired cognitive capabilities and Tendency to react towards cues related to alcohol".[61]

Similarly Feingold et al did a prospective study on proximal and distal predictors of AUDs. They followed 206 subjects since 1984 till 2013. They measured proximal factors related to behaviors and distal risk factors related to traits. They inferred that men with alcohol use disorders differed from others on a wide range of risk factors which include both proximal and distal. They were numbers of problems due to alcohol, peers and partners influence on alcohol, expectancy on alcohol, psychopathology and familial factors. And also only proximal factors predicted treatment – seeking in men with alcohol use disorders.[85]

Again, Witkiewitz did a study on 2011 predictors of heavy drinking on he included 1383 subjects from 11sites. He examined static and dynamic predictors. The static predictions include marital status, treatment history, severity of alcohol dependence and psychiatric symptoms. Dynamic predictions include craving stress and negative affect. They concluded that level of static and dynamic risks were high in heavy drinkers. Similarly, high static risk predicts high dynamic risk.[86]

SELF EFFICACY AND COPING

"Self efficacy is the belief that one has the ability to implement the behaviors needed to produce a desired effect." In 1977, Bandura gave the concept of efficacy expectancy. He with Locke in 2003 provided beliefs on self efficacy across various spheres of functioning which includes performance related to work, academic, athletic, health functioning and psychosocial functioning. It was found that self – efficacy as a strong predictor for the coping behavior, performance level and perseverance while in case of difficult problems. In the context of substance use disorder, those who have strong coping efficacy and necessary skills were likely to make the effort which is needed to resist situations that are high risk for drinking. Even in case of slip, high self – efficacy people regard it as a temporary setback and try to reinstate control. At the same time those who were lower self efficacious more towards a full – blown relapse. Treatment focused on developing or enhancing self efficacy proved to be a valuable intervention. Four sources of beliefs on efficacy were identified by Bandura. They were "performance attainment,

vicarious experiences of observing the performance of others, verbal persuasion to try to convince people that they possess certain capabilities and physiological states based on which people judge their capabilities, strengths and vulnerabilities". In these factors, he observed that performance attainment was the most influential source in efficacy development.[80]

In the field of substance abuse, it was generally postulated and accepted that if those persons taught of coping skills like social skills, communication skills, problem solving, they experience success by implementing those skills in the area of abusing substances thus increasing their self efficacy[80].

PHARMACOTHERAPY IN PREVENTION OF RELAPSE:

Pharmacologic treatments and the adherence also reduce the relapse risk when used as a part of abstinence treatment regimen in alcohol dependence.

Naltrexone:

It was the drug first used and approved by FDA. It is an antagonist of opioid. 50mg of Naltrexone for 3 months reduce the intake of alcohol and also reduce the relapse to drinking heavily. Patients who are on Naltrexone reported decreased craving. It is especially helpful in subjects who have family history of alcohol use disorders.[81]

Acamprosate:

It is the most recent drug used in treatment for alcohol dependence. It reduces both acute and protracted alcohol withdrawal. It is proposed that it acts through glutamate receptors.

These new treatments have increased safety and efficacy over Disulfiram. The main disadvantages of these were its cost, availability and side effects. But the success depends on patient's compliance.[81]

Disulfiram:

It is an important aversive agent. It inhibits acetaldehyde dehydrogenase thus it causes accumulation of acetaldehyde. This causes unpleasant reaction similar to hang over when alcohol is consumed along with this. It is characterized by headache, sweating, tachycardia, vomiting, collapse, delirium, seizures and rarely death.[82]

Dry drunk syndrome:

Some people with alcohol dependence will have expectations that are unreal that what life should be away from alcohol. They want that just by giving up alcohol, their improved life should fall before them without any effort. When those people face challenges, they feel cheated. Besides taking it as a chance to grow, they look at them as disappointment. Those were described as dry drunk syndrome.

Pink cloud syndrome:

It is common is early relapse. Since those in early period they experience roller coaster effect. They conclude and react to end their relapse experience and unwilling to recover and put any more effort on it

Treatment barriers:

Majority of individuals who abuse alcohol do not seek treatment. Sobell et al in 1992 estimated the ratio of untreated various treated alcohol abusers. It ranged from 3:1 to 13:1.[62]

Hingson et al in 1982 conducted a population survey. They concluded that 96% people thought that they themselves could handle the problem, 84% people that their problem was not that serious and 56% people said that they refuse to admit that they need help.[63]

And also some authors found that stigma associated with the illness was another reason that they avoid to enter treatment.

Stigma is a process which is related socio – withrally in which people abusing alcohol are constantly rejected, excluded or devalued. They are symbolically associated with various stigmatized health problems like hepabtis, HIV / AIDS. And they are equated to unemployed, unlovable and criminal people.

Schomerus et al in 2011 did a systematic review on the stigma of ADS are stigmatized severely than other substance addiction and mental illness. They were held more responsible for their problem, they tend to be rejected socially more and subjected to structural disamination. Alcoholics were perceived similar to those people suffer from schizophrenia in thms of negative behavior. The important part of this stigmatization concept is the presence of misinformed negative stereotypes on ADS. Some of those are they are weak willed, they cannot held up reasonably, non adherence to treatment, incurability, being dangerous and unpredictable.[83]

The two reasons related to stigmatization are: first being very much embarrassed to share with anyone ant the second being afraid of what others would think. To overcome this, we need to educate the public that AUDs has many causes, few of them may not be under the control of that individual directly. Whilst at the same time, emphasize should be given about the need for taking responsibility by that person to overcome the problem.

Grant et al in 1996 did a study on treatment barriers. “It was actually based on NLAES (National Longitudinal Alcohol Epidemiologic Survey). It was sponsored by NIAAA. They included 42,862 subjects of California who were aged 18years and above. They formulated 21 reasons for treatment delay which are categorized into 5 subtypes, 1.Denial, 2.Stop drinking on their own, 3.Didn’t want to go, 4.Viewed drinking as a symptom of another problem, 5.family / friends helped them[64].

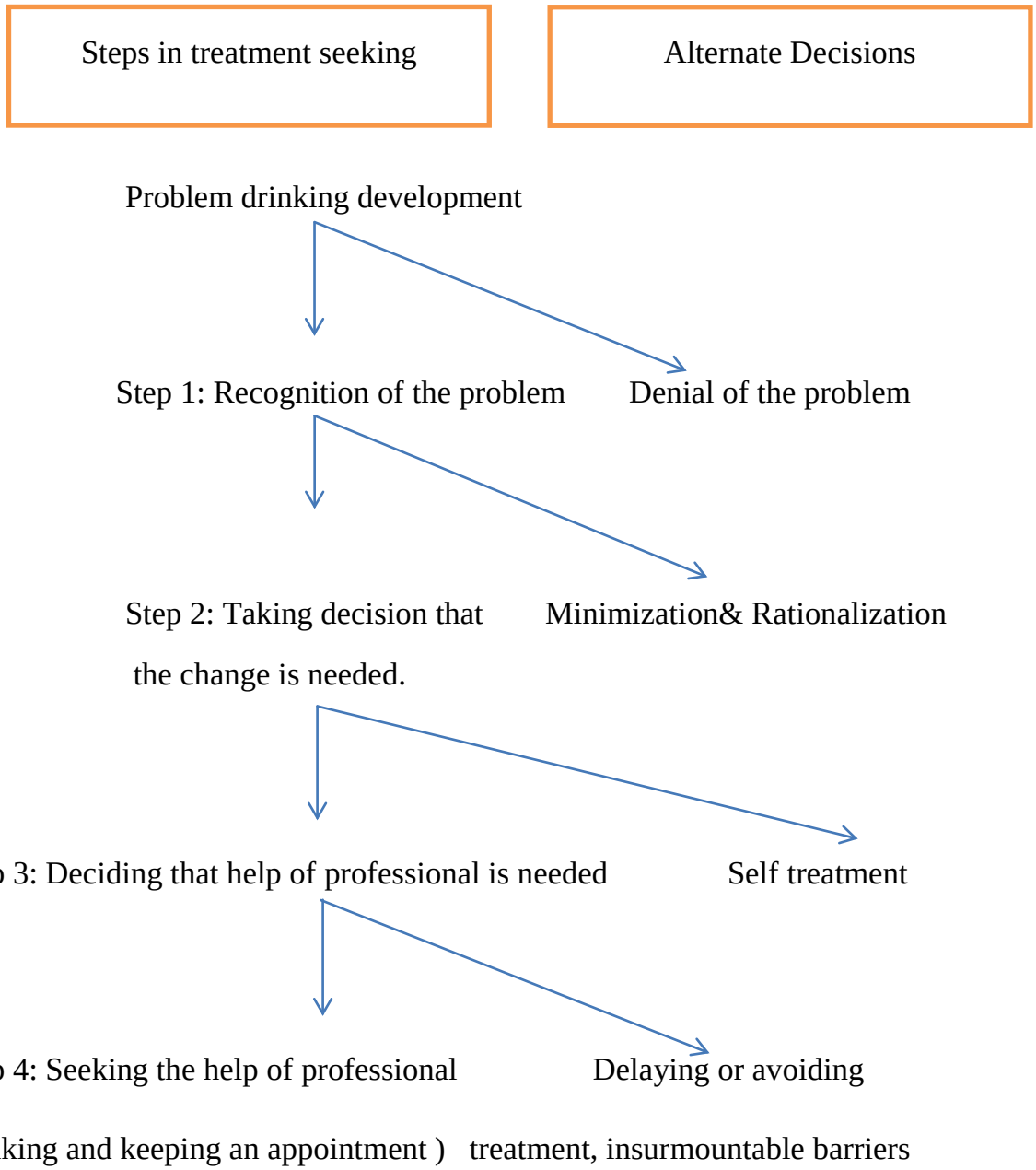
In their sample only 12.7% perceived the need for treatment for their alcohol problem.

28.9% said that they should get strong to handle it, 23.4% said that their drinking was not serious, 20.1% said that it would be better by itself. Around 8 – 12 % said that they could not afford the treatment. They finally concluded that the most important reason that act as barrier to their problem drinking was the strong individual’s perception that they can handle it by themselves”.[64]

Saunders et al did an elaborate study in 2005 to bring light on person related barriers and treatment related for alcohol dependence. He proposed that it is very important to understand the barriers and the deterrents experienced by

patients to develop acceptable and accessible treatment for alcohol use disorders. He proposed a model for treatment seeking process in 1993 and 1996.[65]

That flow chart was given below.



Saunders et al discussed barriers in early stages of treatment seeking and at later stages.[65]

Barriers to treatment seeking at early steps:

"The treatment seeking process begins with the decision making that the change is necessary. It is the very crucial step. Once he realized the drinking problem, the next step is the process of treatment seeking. Many people refuse to accept the problem. Hence, denial is the major barrier. They engage in minimization of the problem and rationalization of the problem. They also said self stigma and public stigma were the barriers. Self stigma includes damage to the self-esteem and embarrassment. Public stigma includes one's fear about what others think. They also found that drinking related problems predicts the treatment seeking rather than drinking behavior itself. The initial steps were basically an activity of cognition. When there is a great amount of emotional distress and also the presence of additional psychiatric illness hinder the treatment decision.

Barriers during later steps:

The third most important step in the treatment seeking process is to decide upon the need of professional intervention and the final step is to decide to seek the treatment. Most of the people before getting professional help, they try different strategies and think that they can solve their problem on their own. Both factors associated with individual and treatment plays role in these stages.

Person related factors related to treatment are:

Public stigma, fear of others reaction, doubting the treatment need, Attitude toward treatment and ignorance of availability of treatment.

Treatment related factors are:

Poor availability of services, cost of the treatment, access issues and non-coverage in certain Insurance. They play an important in delaying treatment at the final stage."[65]

Previous studies indicated that financial reasons were greater for females, low socioeconomic status and minority people.[65]

Studies related to this area were very few. Hence in our study we tried to explore the reasons for relapse and the reasons for delay in treatment seeking after relapse.

AIMS AND OBJECTIVES

AIM

To study various factors contributing relapse in alcohol dependence and intra- group comparison for factors influencing delay in treatment seeking after relapse.

OBJECTIVES:

1. To study various psychosocial factors contributing relapse in alcohol dependence subjects.
2. To compare those factors in contributing early relapse.
3. To study various factors influencing delay in treatment seeking among relapsed patients.
4. To compare those factors among early and late treatment seekers.

HYPOTHESIS

Null hypothesis

- There is no significant relationship between any psychosocial factors and relapse into alcohol drinking in alcohol dependent individuals.
- There is no significant factors in delaying treatment seeking after relapse.

METHODOLOGY

Setting:

The study was conducted at the Institute of Mental Health, Madras Medical College, Chennai, a tertiary care center for Tamil Nadu. The necessary prior permission for the conduct of the study was obtained from institutional Ethics Committee, Madras Medical College, Chennai.

Study population:

Adults who qualified for Alcohol dependence syndrome and got de-addiction treatment but relapsed into their drinking behavior were taken into the study. Both in patients and out patients of Institute Mental Health were included.

Sample size:

A total of 100 subjects of alcohol dependence syndrome with relapse in drinking after de-addiction treatment were taken.

Sample size calculation:

Since it is a prevalence study the sample size is calculated according to the following formula.

Sample size= $\sigma_l^2 * p * q / d^2$

σ_l=1.96; d=5%

By reviewing previous literature, the prevalence of alcohol dependence was identified as 6-8%[84]. Hence p is taken as 7%.

1.96*1.96*0.07*0.93/0.0025 = 100.

Period of study:

The study was conducted for a total of 4 months from March 2017 to June 2017.

Sample method:

Consecutive sampling.

Study Design:

Cross sectional study:

(One hundred) 100 alcohol dependent individuals who were relapsed into alcohol use after a de-addiction treatment were included in the study.

Inclusion Criteria:

1. Age 18 years and older.
2. Individuals who qualified for alcohol dependence according to ICD IO criteria.
3. Individuals who relapsed into use of alcohol after alcohol deaddiction program.

Exclusion Criteria:

1. Patent with presence of major psychiatric illness.
2. Patient with history of head injury, neurological disease or hearing problems.
3. Alcohol dependent subjects who maintained abstinence after de-addiction program.

Operational Design:

After obtaining the written informed consent from the participants as required by the intuitional Ethics committee.

The following questionnaire and scales employed.

1. Semi structured proforma
2. Severity of addiction assessed by severity of alcohol dependence questionnaire(SADQ)
3. Alcohol relapse risk scale(ARRS)
4. DUSOCS (Duke's Social Support and Stress Scale)

Semi structured proforma:

It is used to collect the patient's socio demographic profile which includes age, gender, occupations, income, and residence.

In the second part, details about their substance use were obtained like the age of onset of drinking alcohol, age of dependence, their treatment, the period of abstinence, relapse into the use of alcohol etc.

The reasons for relapse were also enquired in the same section.

DESCRIPTION ABOUT THE INSTURMENTS USED:

Severity of Alcohol dependence Questionnaire (SADQ)

The severity of alcohol dependence questionnaire is a self-reporting short questionnaire which has 20 items. It was formulated by the unit of addition research at the Maudsley Hospital. It is used to measure the severity of alcohol dependence. SADQ consistently has high reliability on test – retest co-efficient. Stock well et al concluded that the SADQ a reliable, quick and valid instrument[66].

It consists of 5 sections

1. Physical withdrawal symptoms
2. Affective withdrawal symptoms
3. Craving and relief drinking
4. Typical daily drinking
5. Reinstatement of dependence after a period and abstinence

Each item was scored on a Likert scale 0 – 4. The score of more than 30 indicates severe dependence.[67]

Alcohol Relapse Risk Scale : (ARRS)

ARRS is a short, self-rated scale formed by "Tokyo Metropolitan Institute of Medical Science" to evaluate the risk of reuse of alcohol multilaterally in alcohol dependence patients.

It has 32 items. It evaluates the risk of reuse of alcohol in 5 dimensions.

1. Stimulus induced vulnerability (SV)
2. Emotionality problems (EP)
3. Compulsivity for alcohol (CP)
4. Lack of negative expectancy for alcohol (NE)
5. Positive expectancy for alcohol (PE)

It takes around 15 minutes to finish the questionnaire

The cronbach's alpha for each of the subscales range from 0.55 to 0.90 and for the total alcohol relapse risk scale it was 0.90. Both indicate that it has good internal consistency[68].

DUSOCS(Duke's Social Support and stress Scale)

DUSOCS was developed in 1989 by

It is a self-administered scale

It allows identifying the individuals' most stressful and supportive relationships.

It has 4 scores

- Family support and stress
- Non family support and stress
- Social support and stress

By 3 points scale, the individual rates her or his family members, non – family members and any other special supporting persons as people who give him / his personal support which has 12 items and the same who cause him/her personal stress which also has 12 items. Total score of support and stress were derived by adding the family, the non-family and the special support scores, further divided by 22.[69]

Family support score is derived from addition of all the scores in that section and divide it by 14 to get a 0 – 1 score. Similarly scores of the family stress, non-family stress and non-family support were derived. The score is directly related to stress and support. The greater the score, the more the relationships stressful or support full.

It has spearman correlation score of 0.43 and cronbach's alpha was 0.53 to 0.7.

Thus it was a quantitative scale to assess social support and stress.[70]

HAMILTON'S RATING SCALE:

Max Hamilton first introduced this Hamilton's rating scale [HAM-D or HDRS][78] in 1960. It is accepted widely and used to assess the severity of the depression and helps as a follow up guide in the recovery phase. Though the original author does not provide a specific guidelines to administer and rating, it has high inter-rater reliability and validity. Many version of HDRS are available. In HAM-D 21 item version only 17 items were scored and others are taken up for clinical information like hypersomnia, increased appetite and concentration and indecision. It takes about 20 minutes to administer. Eight items scored from 0to 4 and other 9 items are scored from 0 to 2.[0= not present;4=very severe].

NORMAL	MILD	MODERATE	SEVERE	VERY SEVERE
0-7	8-13	14-18	19-22	>23

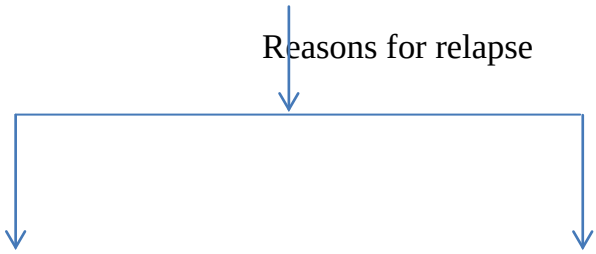
YOUNG MANIA RATING SCALE:

This Young Mania Rating scale (YMRS)[79] is used to quantify the severity of the manic symptoms during the episode and as well during the recovery phase in the treatment. It consists of 11 items scored on a likert scale 0 to 8 for four items, 0 to 4 for 7 items. Reliability is good based on inter-rater reliability and consistency studies.

OPERATIONAL DESIGN

First objective

100 alcohol dependent subjects who relapsed into the use of alcohol



Early treatment seekers (who came for treatment within 1year of relapse)

Late treatment seekers (who came for treatment after 1 year of relapse)

Comparing both the groups with their

1. Socio demographics
2. Alcohol relapse risk scale
3. Duke's social support and stress scale.

STATISTICAL DESIGN

The study design is cross sectional and prevalence study. Most of the variables used in our study are categorical in nature. Hence frequency and prevalence was calculated.

Pearson's chi square test also known as Chi square test for independence and Chi square test of association was used to find if there was any relationship between two categorical variables. Eg: Is there any significant distribution of marital status among the two groups of persons abusing alcohol.

P value of less than 0.05 was taken as significant.

RESULTS AND OBSERVATION

TABLE 1

DISTRIBUTION OF AGE GROUP

Age group	Frequency	Percent
16-30	19	19.0
31-45	43	43.0
Above 45	38	38.0
Total	100	100.0

This table shows the age group of the sample. 43% were between the age group 31 – 45 years.

CHART 1

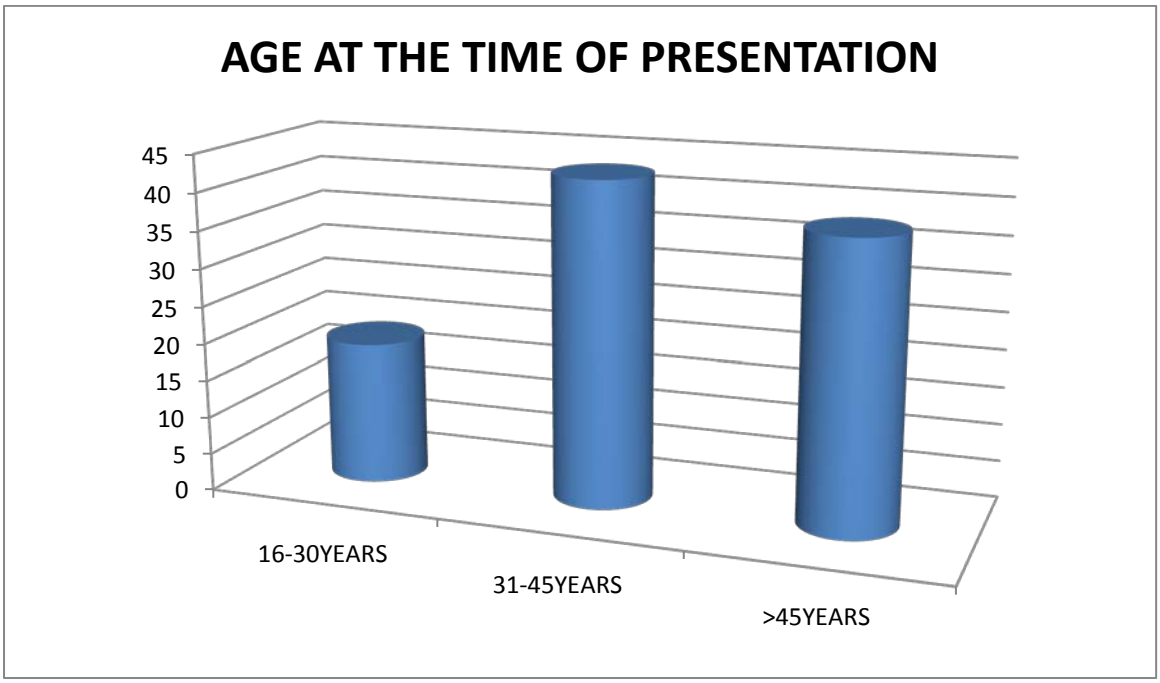


TABLE 2

DISTRIBUTION OF GENDER

Gender	Frequency	Percent
Male	92	92.0
Female	7	7.0
Transgender	1	1.0
Total	100	100.0

92% of alcohol dependents were males.

CHART 2

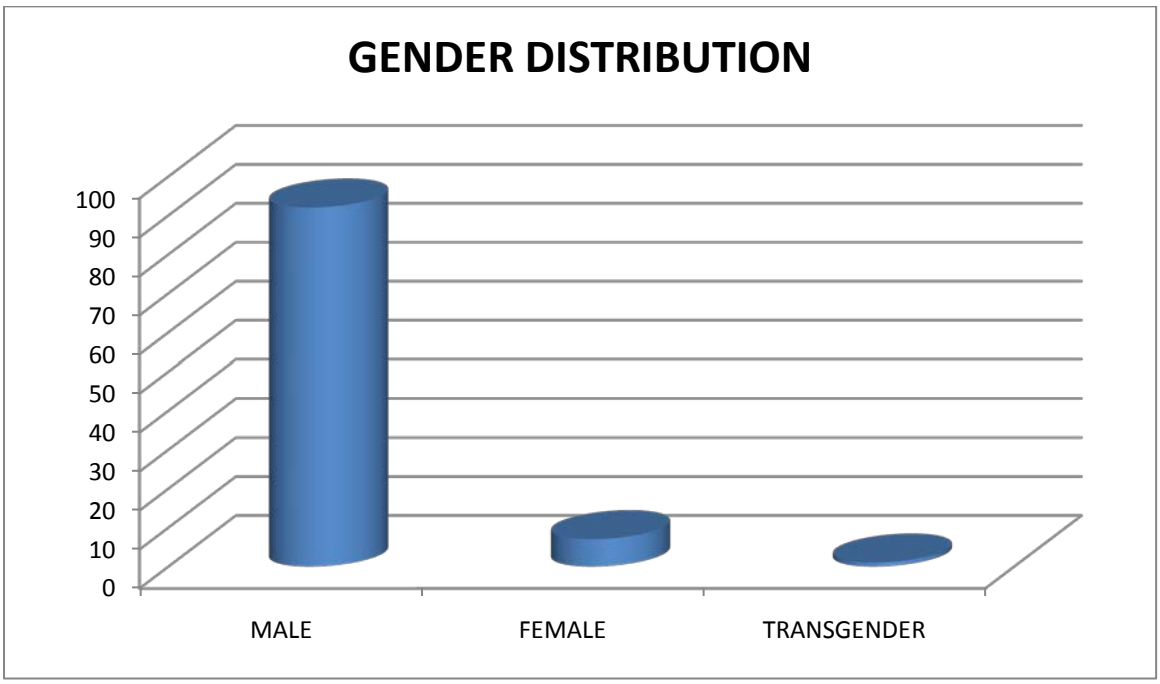


TABLE 3

DISTRIBUTION OF OCCUPATIONAL STATUS AMONG ALCOHOL DEPENDENT SUBJECTS

	Frequency	Percent
Unskilled worker	19	19.0
Semi skilled	52	52.0
Skilled	29	29.0
Total	100	100.0

This table shows the occupational status of the subjects. In that 52% of alcohol dependents belong to semiskilled laborers.

CHART 3

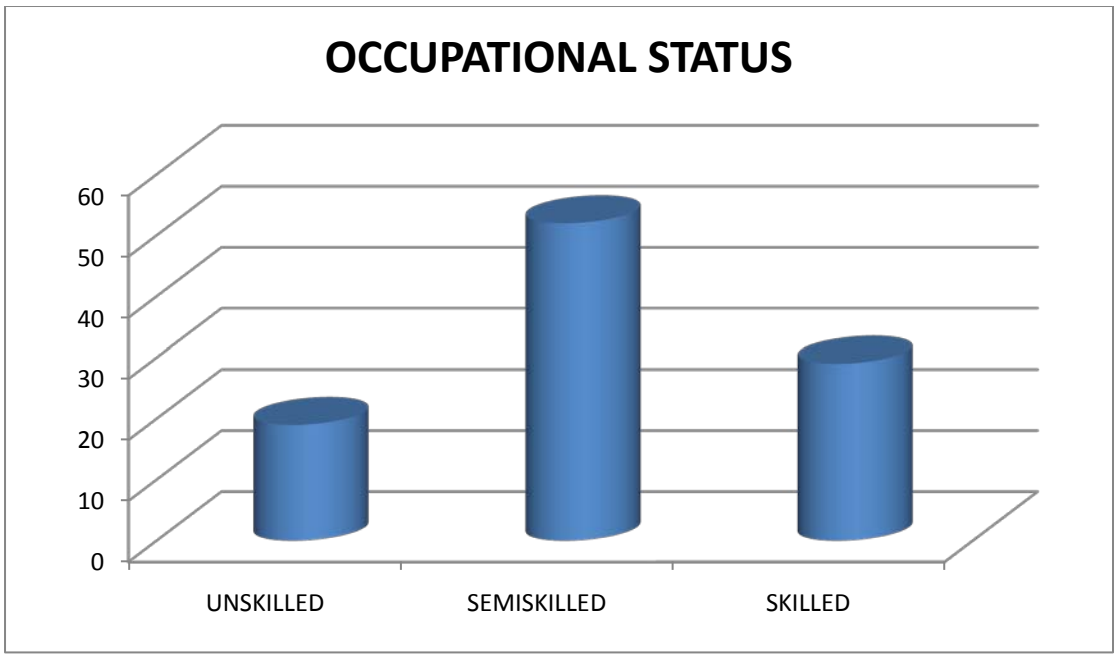


TABLE 4

DISTRIBUTION OF EDUCATIONAL STATUS

EDUCATION

	Frequency	Percent
Illiterate	11	11.0
Primary school	14	14.0
High School	50	50.0
HSc	23	23.0
Graduate	2	2.0
Total	100	100.0

75% of alcohol dependence were below 10^{th} standard.

CHART 4

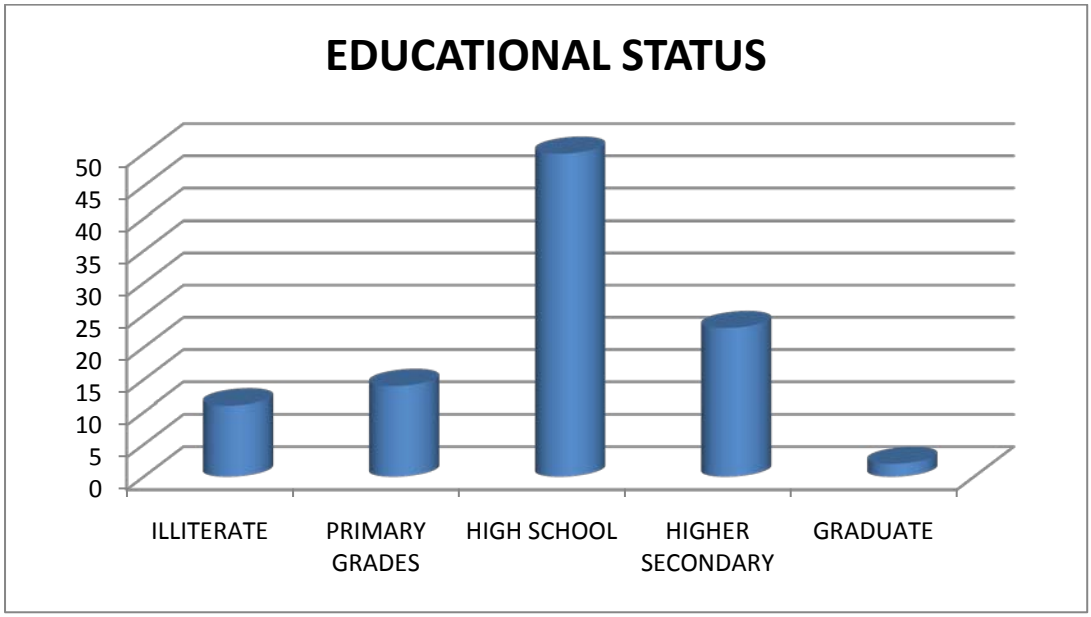


TABLE 5

DISTRIBUTION OF RESIDENTIAL AREA

LOCALITY

	Frequency	Percent
Rural	31	31.0
Urban	56	56.0
Urban slum	13	13.0
Total	100	100.0

64% belongs to urban and urban slum.

CHART 5

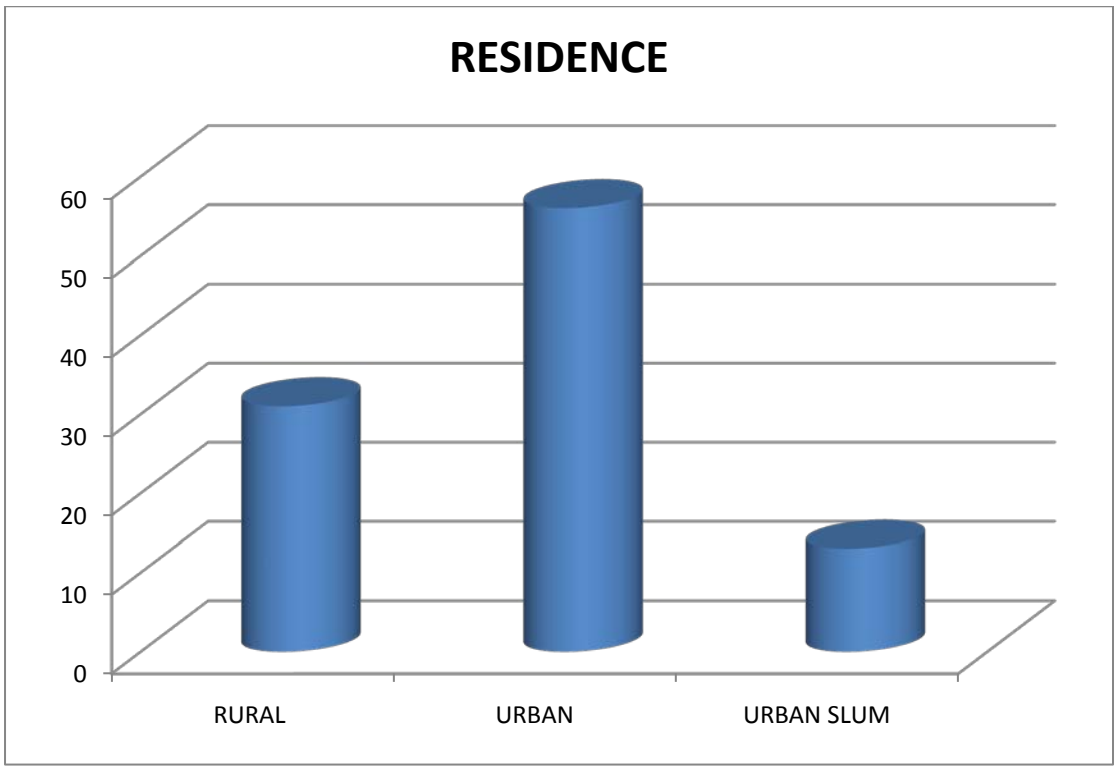


TABLE 6

DISTRIBUTION OF MARITAL STATUS

Marital status	Frequency	Percent
Single	22	22.0
Married	67	67.0
Divorced	8	8.0
Widow	3	3.0
Total	100	100.0

This table shows the marital status of the sample. 67% were married and 22% were single.

CHART 6

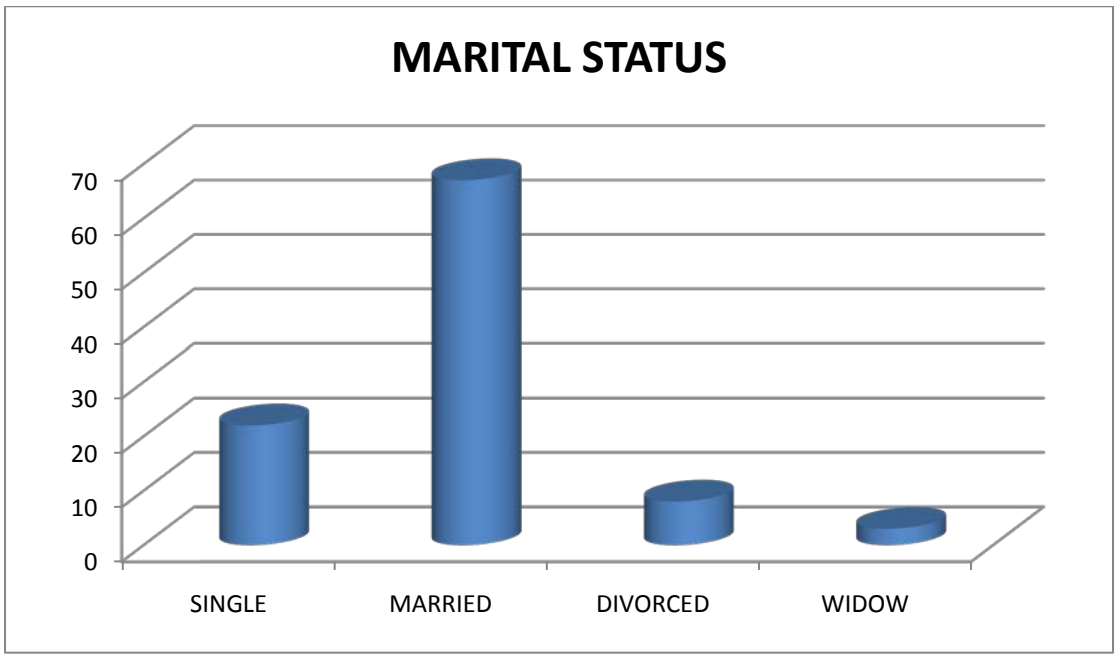


TABLE 7

DISTRIBUTION OF FAMILY TYPE

Type	Frequency	Percent
Nuclear	65	65.0
Joint	34	34.0
Extended	1	1.0
Total	100	100.0

65% belong to nuclear family.

CHART 7

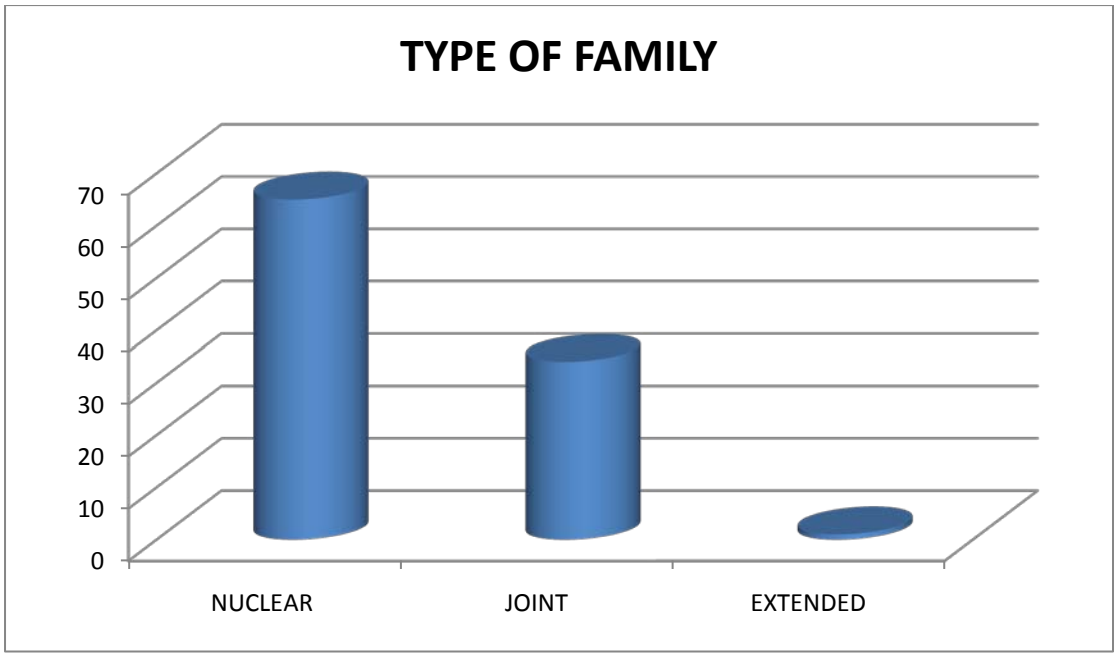


TABLE 8

DISTRIBUTION OF AGE AT FIRST DRINK

Age at first drink	Frequency	Percent
<20	68	68.0
20-30	31	31.0
30-40	1	1.0
Total	100	100.0

68% of alcohol dependents had their first drink before the age of 20 years.

CHART 8

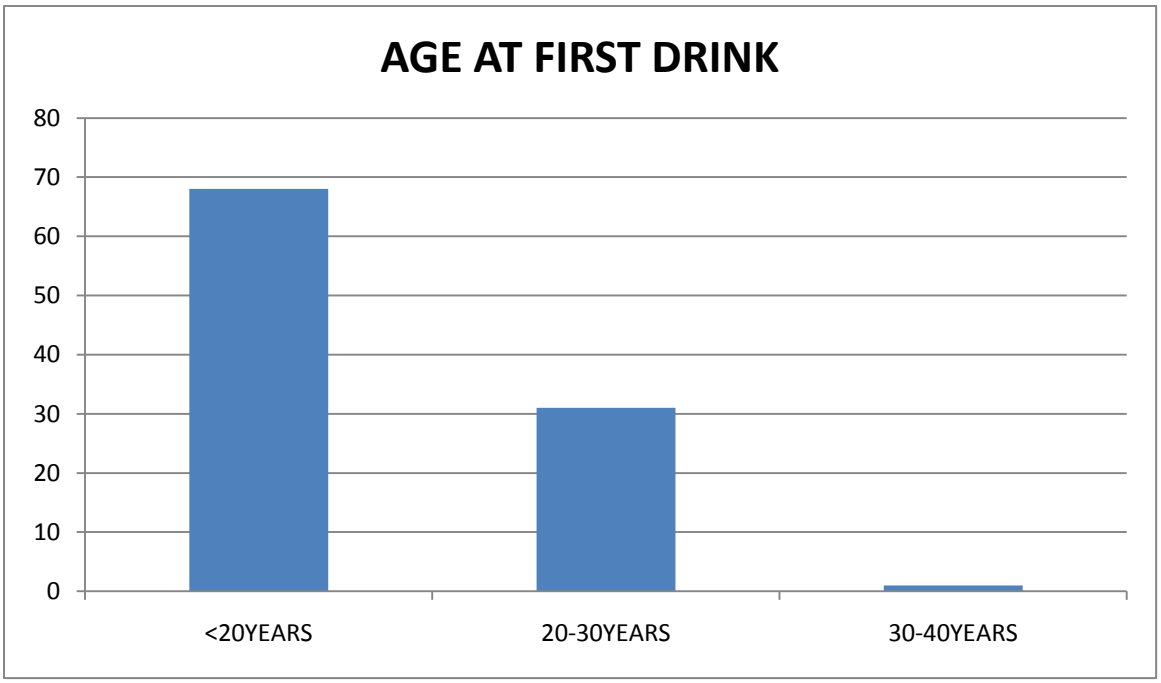


TABLE 9

DISTRIBUTION OF AGE AT DEPENDENCE

Age at dependence	Frequency	Percent
<20	26	26.0
20-30	50	50.0
30-40	22	22.0
Above 40	2	2.0
Total	100	100.0

76% of alcohol dependents met the ICD 10 criteria for dependence before the age of 30 years.

CHART 9

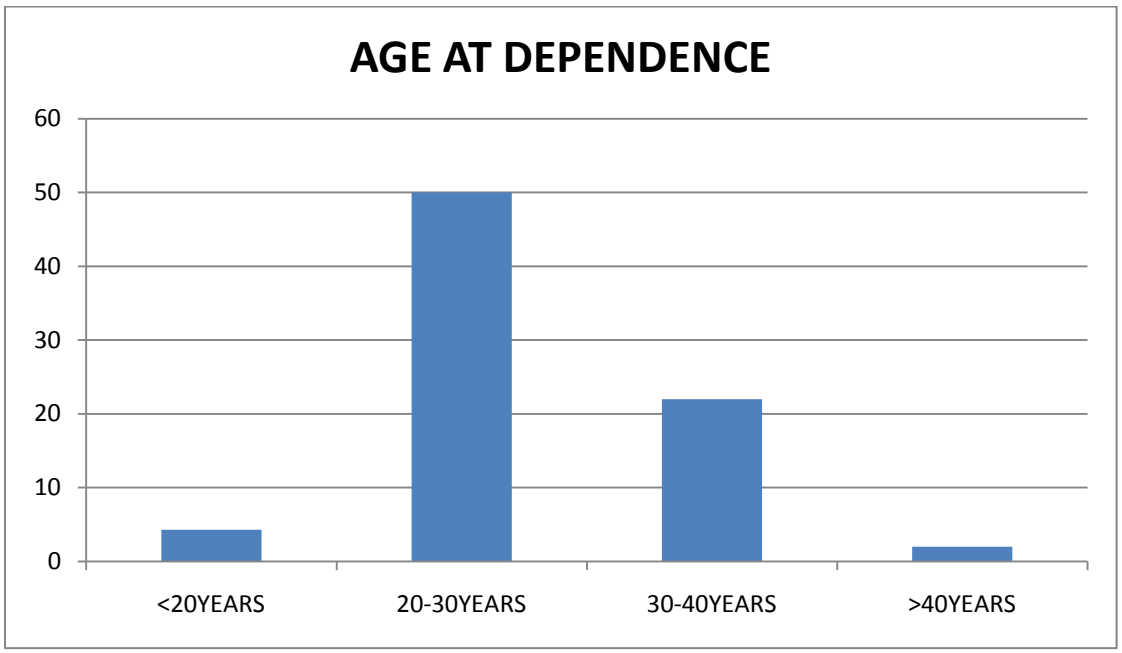


TABLE 10

DURATION OF DEPENDENCE

Duration of dependence in years	Frequency	Percent
<5	39	39.0
6-10	16	16.0
11-15	18	18.0
Above 15	27	27.0
Total	100	100.0

61% has more than 5 year's duration of dependence on alcohol.

CHART 10

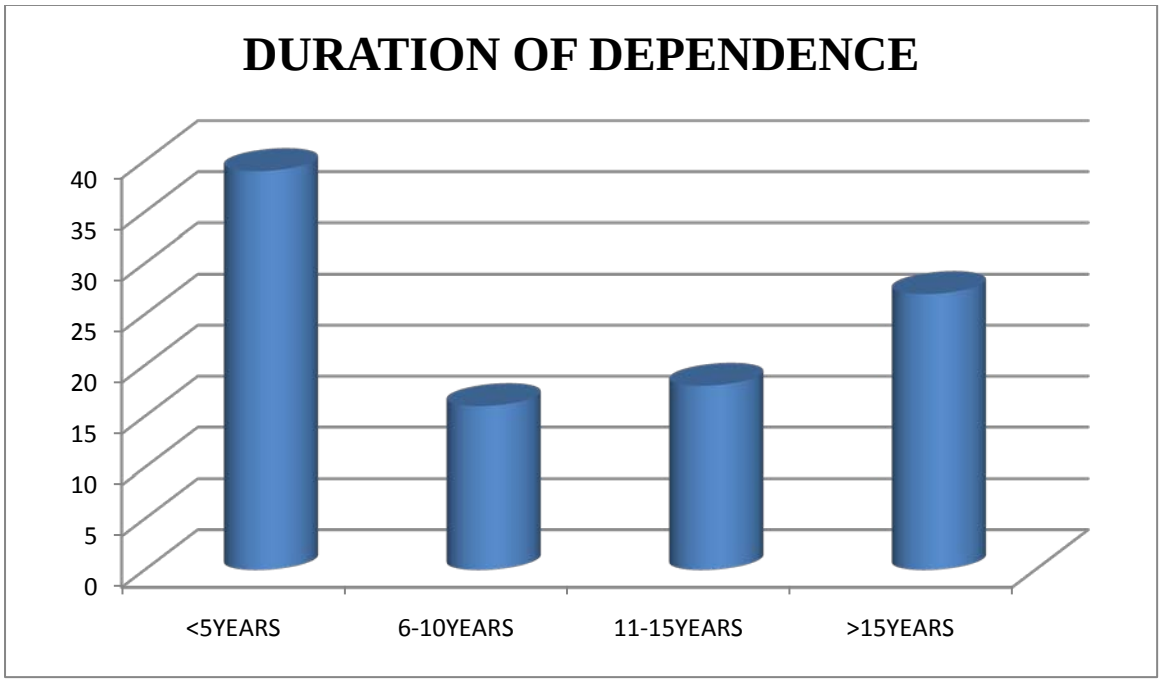


TABLE 11

SEVERITY OF DEPENDENCE BY SADQ:

SADQ SCORES	Frequency	Percent
0-15	3	3.0
16-30	42	42.0
Above 30	55	55.0
Total	100	100.0

SADQ > 30 denotes severe dependence.

55% in our study group belong to severe alcohol dependent people.

CHART 11

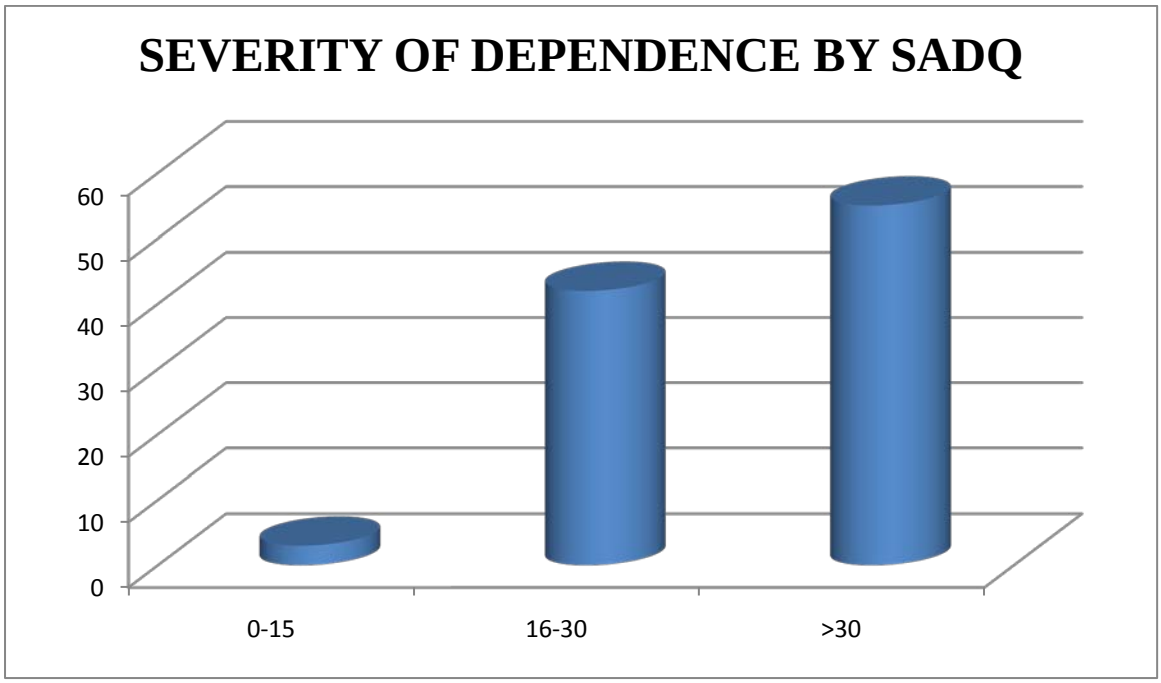


TABLE 12

DISTRIBUTION OF CO-MORBID ILLNESS

	Frequency	Percent
1.00	99	99.0
4.00	1	1.0
Total	100	100.0

Only 1% had depression in our study group.

Table 13

DURATION OF ABSTINENCE

Duration of abstinence in months	**Frequency**	**Percent**
2-6	47	47.0
7-12	21	21.0
13-18	11	11.0
19-24	13	13.0
>24	8	8.0
Total	100	100.0

68% people relapsed into use of alcohol in less than 1 year.

Only 8% maintained abstinence for more than 2 years.

TABLE 14

REASONS FOR RELAPSE

Reasons for relapse	Frequency	Percent
Poor motivation	2	2
Craving	19	19
Peer pressure	39	39
Family problems	57	57

57% people said family problems as their reason for relapse 39% as peer pressure, 19% said that they reused due to alcohol craving.

CHART 13

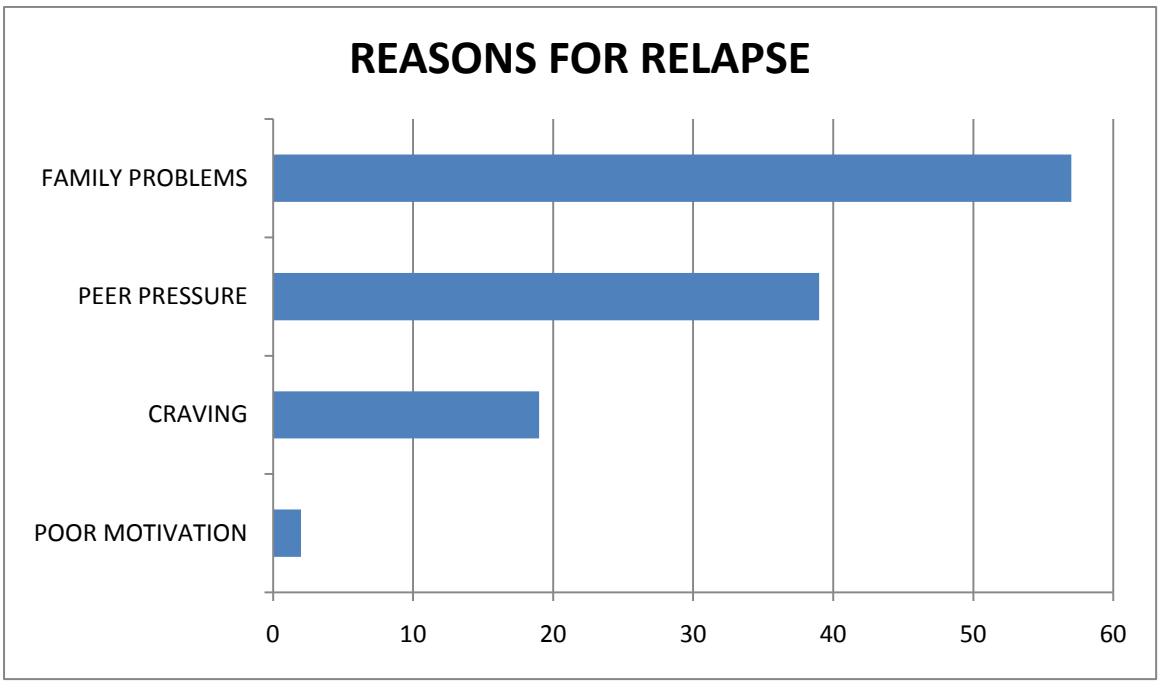


TABLE 15

DURATION OF DELAY FOR THE TREATMENT.

Duration of delay	Frequency	Percent
<3 months	27	27.0
3-6	8	8.0
6-12 months	49	49.0
>1 year	16	16.0
Total	100	100.0

49% people presented for the treatment in 6 – 12 months delay.

84% presented for the treatment within a year.

16% presented only after 1year.

CHART 14

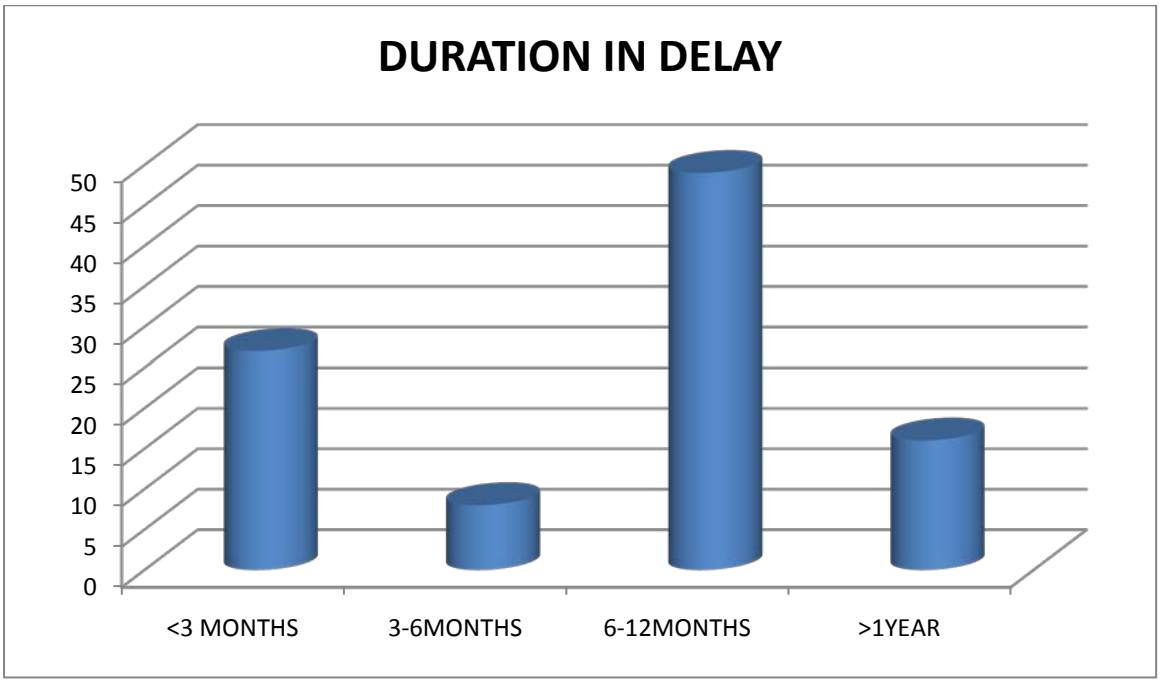


TABLE 16

DISTRIBUTION OF VARIOUS FACTORS INFLUENCING THE DELAY IN PRESENTATION FOR THE TREATMENT.

SOCIAL_INFLUENCE

	Frequency	Percent
Spouse	4	4.0
Other social network	58	58.0
Attitude towards drinking	13	13.0
None	25	25.0
Total	100	100.0

PSYCHOLOGICAL_INFLUENCE		
	Frequency	**Percent**
Not a serious problem	12	12
Denial	2	2
not decided to stop drinking yet	24	24
personal stigma	18	18
Lack of control	56	56

SITUATIONAL_INFLUENCE

	Frequency	Percent
Unsuitable living condition	16	16.0
Criminality	2	2.0
Physical and mental health	2	2.0
None	80	80.0
Total	100	100.0

ACCESS_BARRIERS

	Frequency	Percent
Proximity of service	12	12.0
treatment related belief and barriers	28	28.0
None	60	60.0
Total	100	100.0

75% report social influence especially other social networks as reason for the delay.

56% report psychological influence especially not decided to stop drinking yet as a factor for their delay.

20% and 40% report situational influence and access barriers for the delay in treatment.

TABLE 17

COMPARISON OF DUKE'S SOCIAL SUPPORT AND STRESS SCALE BETWEEN EARLY AND LATE TREATMENT SEEKERS.

Dukes social support and stress scale (DUSCOS)	DURATION_OF_DELAY	N	Mean	Std. Deviation	Std. Error Mean	t value	p value
Family_support	>1 Yr	16	30.3544	14.16462	3.54115	3.654**	p<0.001
	<1 yr	84	48.0696	18.35039	2.00219		
Non_Family_support	>1 Yr	16	23.7500	19.95829	4.98957	0.079	0.937
	<1 yr	84	24.1429	17.79071	1.94113		
Social_support	>1 Yr	16	30.1100	13.05443	3.26361	2.693**	0.003
	<1 yr	84	42.5146	17.48708	1.90800		
Family_stress	>1 Yr	16	52.6750	23.30858	5.82714	4.193**	p<0.001
	<1 yr	84	31.0767	17.96686	1.96034		
Non_Family_Stress	>1 Yr	16	43.1250	26.00481	6.50120	5.483**	p<0.001
	<1 yr	84	13.5714	18.40919	2.00861		
Social_Stress	>1 Yr	16	52.8381	12.29701	3.07425	7.893**	p<0.001
	<1 yr	84	26.7854	12.06508	1.31641		

CHART: 15

DISTRIBUTION OF SUPPORT

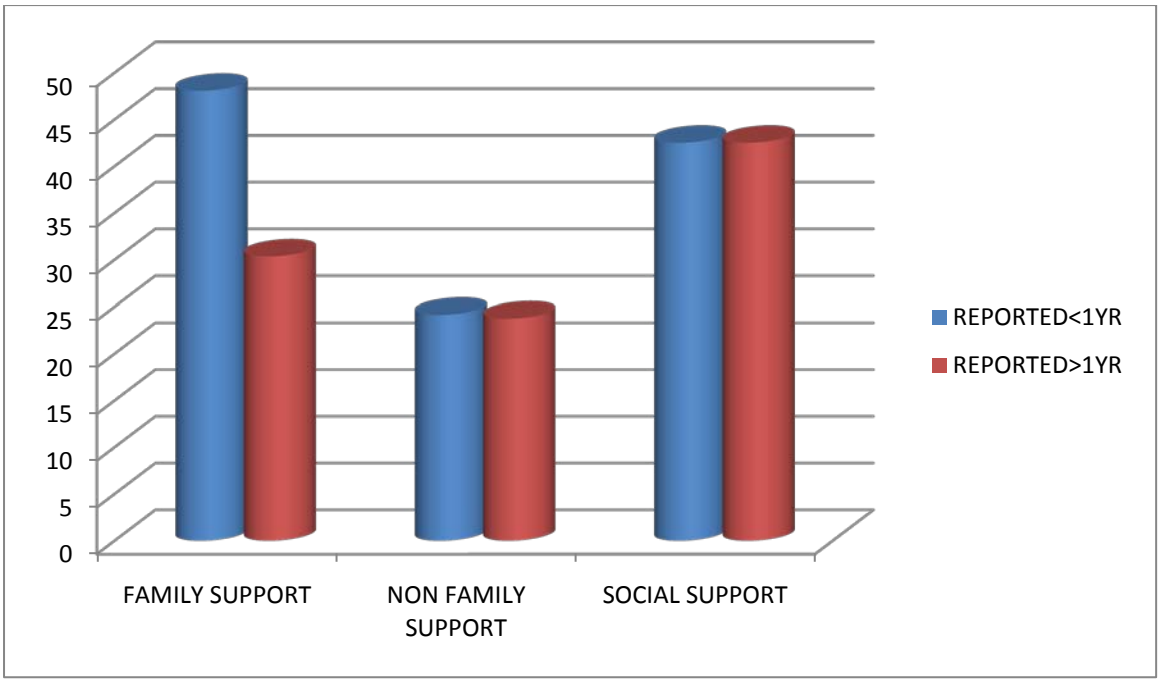
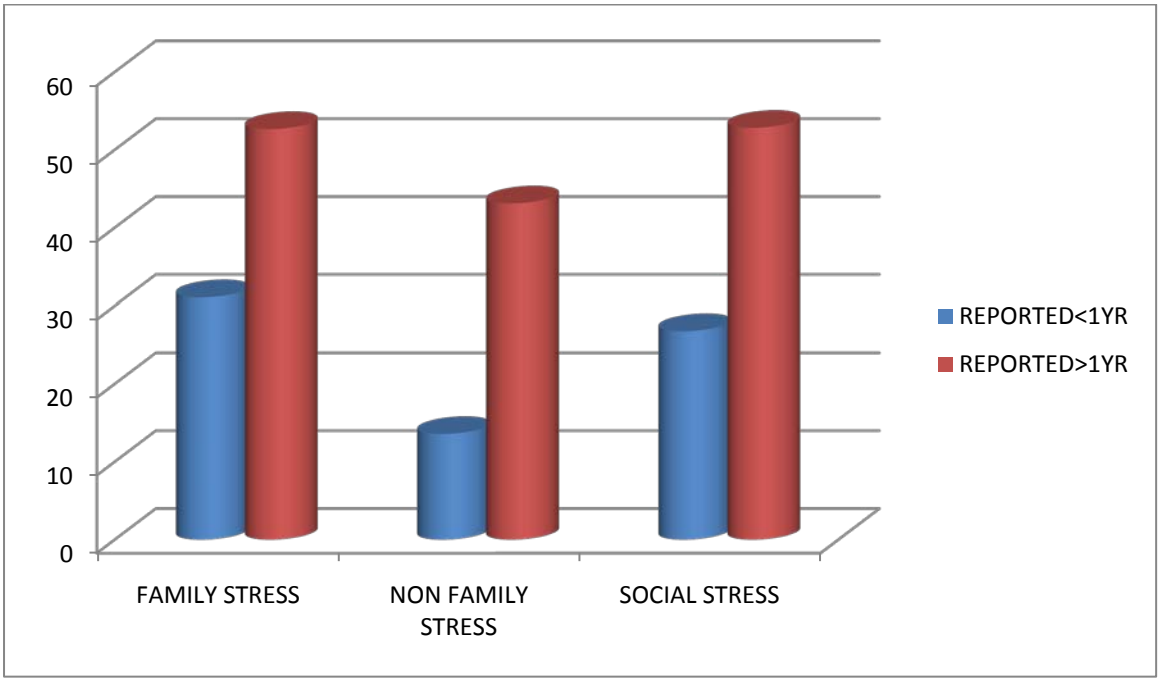


CHART 15 A

STRESS SCORES ON DUSOCS



There were statistically significant scores on family and social support which were high among early treatment seekers. i.e < 1 year.

Similarly there is statistically significant difference on stress scale, that all types of stress, family stress, non family stress and social stress were high among these who presented for the treatment above 1 year.

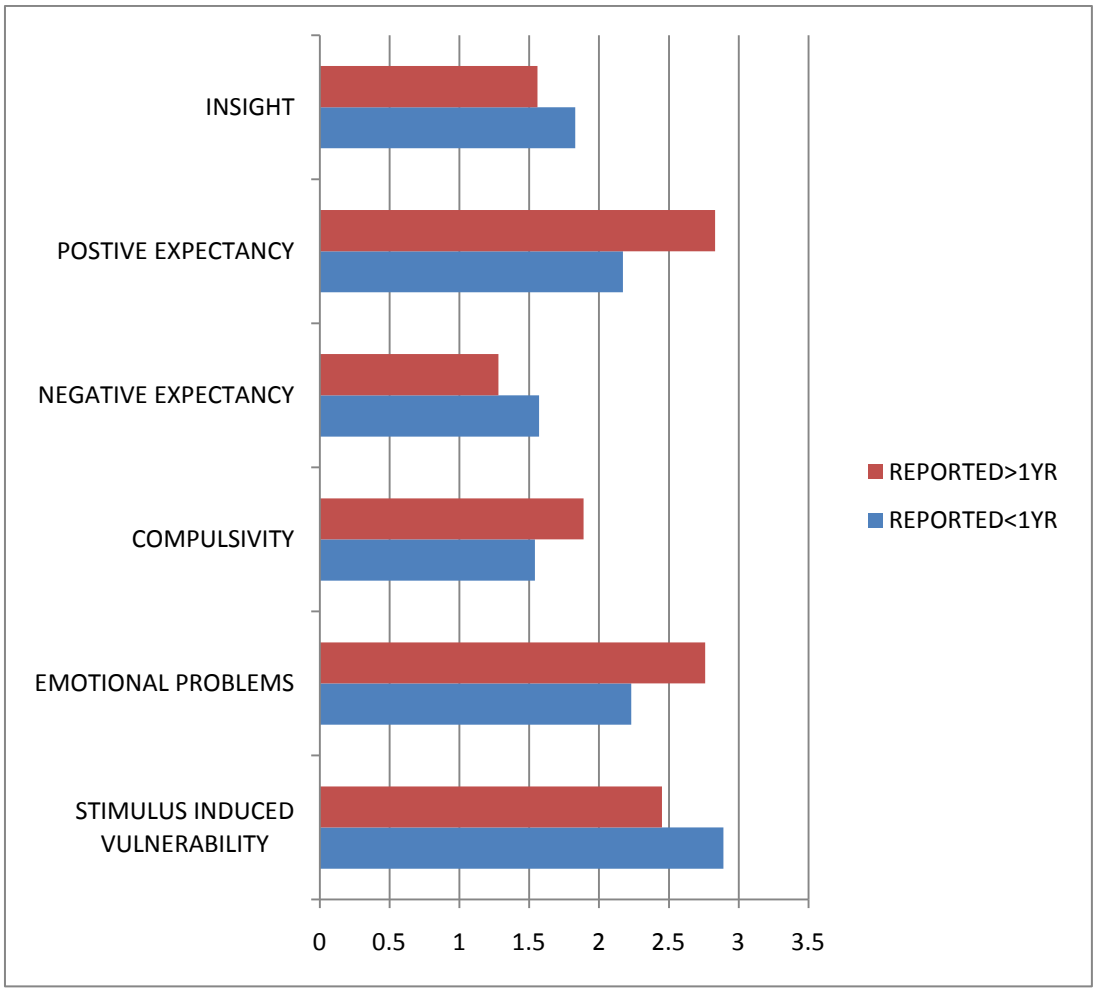
TABLE 18

COMPARISON OF ALCOHOL RELAPSE RISK SCALE BETWEEN EARLY AND LATE TREATMENT SEEKERS.

Alcohol Relapse Risk Scale (ARRS)	DURATION OF DELAY	N	Mean	Std. Deviation	Std. Error Mean	t value	p value
Stimulus Induced Vulnerability	>1 Yr	16	2.4544	.10997	.02749	0.332	0.74
	<1 yr	84	2.8912	5.23535	.57122		
Emotional Problems	>1 Yr	16	2.7688	.38810	.09703	3.922**	p<0.001
	<1 yr	83	2.2318	.51942	.05701		
Compulsivity Alcohol	>1 Yr	16	1.8950	.73299	.18325	1.914	0.058
	<1 yr	84	1.5436	.66156	.07218		
Negative Expectancy	>1 Yr	16	1.2813	.31458	.07864	2.535*	0.014
	<1 yr	84	1.5726	.76805	.08380		
Positive Expectancy	>1 Yr	16	2.8313	.51861	.12965	3.077**	p<0.001
	<1 yr	84	2.1739	.82192	.08968		
Insight	>1 Yr	16	1.5625	.44553	.11138	1.496	0.138
	<1 yr	84	1.8310	.68950	.07523		

CHART 16

COMPARING ARRS SCORES BETWEEN EARLY AND LATE TREATMENT SEEKERS



Total mean score in early treatment seeker – 12.2441

Total mean score in late treatment seekers – 12.775

The mean score of alcohol relapse risk is more or less the same between the group.

But in subscales, there is a statistically significant difference between two group in emotional problem, negative expectancy and positive expectancy.

That is emotional problem were more in late treatment seekers. Similarly less negative expectancy and more positive expectancy were common among late treatment seekers.

TABLE 19

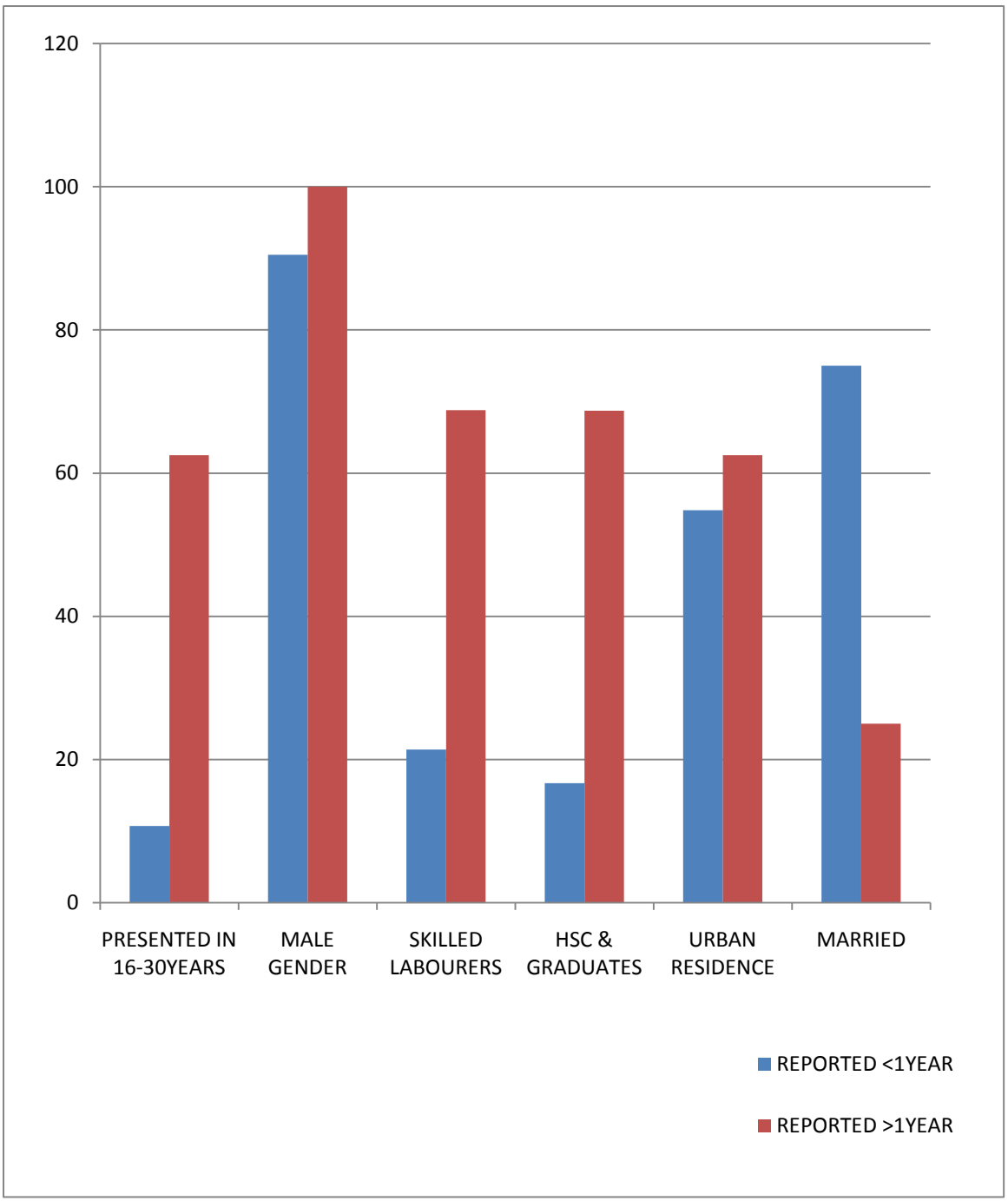
COMPARISON OF SOCIO DEMOGRAPHICS AND ALCOHOL RELATED VARIABLES BETWEEN EARLY AND LATE TREATMENT SEEKERS.

Variables		< 1 year N – 84	>1 year N – 16	ή	p
Age group	16 – 30	9(10.7%)	10(62.5%)	23.938	< 0.001
	31 – 45	41(48.8%)	2(12.5%)		
	>45	34(40.5%)	4(25%)		
Gender	Male	76(90.5%)	16(100%)	1.656	0.437
	Female	7(8.3%)	0		
	Transgender	1(1.2%)	0		
Occupation	Unskilled	19(22.6%)	0	15.574	< 0.001
	Semiskilled	47(56.0%)	5(31.2%)		
	Skilled	18(21.4%)	11(68.8%)		
Education	Illiterate	9(10.7%)	2(12.5%)	26.082	< 0.001
	Primary	14(16.7%)	0		
	High school	47(56.0%)	3(18.8%)		
	Higher secondary	14(16.7%)	9(56.2%)		
	Graduate	0	2(12.5%)		

Residence	Rural	27(32.1%)	4(25.0%)	0.369	0.832
	Urban	46(54.8%)	10(62.5%)		
	Urban slum	11(13.1%)	2(12.5%)		
Marital status	Single	12(14.3%)	10(62.5%)	20.270	< 0.001
	Married	63(75%)	4(25%)		
	Divorced	6(7.1%)	2(12.5%)		
	Widow	3(3.6%)	0		
Type of family	Nuclear	56(66.7%)	9(56.2%)	0.947	0.623
	Joint	27(32.1%)	7(43.8%)		
	Extended	1(1.2%)	0		
Age at first drink	<20	56(66.7%)	12(75%)	0.549	0.760
	20 – 30	27(32.1%)	4(25%)		
	30 – 40	1(1.2%)	0		
Age at dependence	<20	16(19%)	10(62.5%)	13.303	0.004
	20 – 30	46(54.8%)	4(25.0%)		
	30 – 40	20(23.8%)	2(12.5%)		
	>40	2(2.4%)	0		
Duration of dependence	<5	29(34.5%)	10(62.5%)	6.300	0.098
	6 – 10	14(16.7%)	2(12.5%)		
	11 – 15	18(21.4%)	0		
	>15	23(27.4%)	4(25%)		
Severity of dependence	0 – 15	3(3.6%)	0	11.598	0.003
	16 – 30	41(48.8%)	1(6.2%)		
	>30	40(47.6%)	15(93.8%)		

CHART 17

BAR CHART COMPARING SOCIO DEMOGRAPHICS AND ALCOHOL RELATED VARIABLES BETWEEN EARLY AND LATE TREATMENT SEEKERS



There is statistically significant difference in age of presentation, occupation, education, marital status, age at dependence and severity of dependence between early and late treatment seekers.

Those who seek treatment beyond 1 year of relapse belong to the age group 16 – 30 years. The higher the age, early the treatment seeking habit.

Similarly, these who seek treatment beyond 1 year were skilled laborers and educated more i.e higher secondary and graduates.

Those who seek treatment early were married compared to those who delay their treatment.

Regarding alcohol use, individuals with earlier the age at dependence and more severe dependence delay the treatment when compared to others.

There was no statistically significant difference in gender, residence, family type, age at first drink and duration of dependence between the two groups.

DISCUSSION

The study sample was 100 patients. The socio demographic profile and the pattern of alcohol consumption not only help us to understand the patient's background but also their influence on relapse. The Bangalore study done in stated that 67.4% of alcohol users were between the ages 26 – 45 years. Also found that people who use alcohol has low educational level when compared to the control population. And also they found that major proportion were unskilled workers and married. These finding were replicated in our study also. We found that 62% belong to the age group 16 – 45 years, nearly 71% were below 10th standard, 67% were married.[2]

Korlakunta et al also confirmed more or less the similar findings i.e. majority were middle aged and married. 94.7% of their sample was also men. In our study also 92% were males. This showed that the problem due to alcohol relapse was common in males. In their sample 78.9% of patients hailed from rural background. But in our study only 31% from rural area, rest from urban and urban slums. This is due to the location of our center in an urban location.[71]

Regarding the duration of alcohol use, the Bangalore study found that 72.1% of people using alcohol for 5 years and more. In our study also we found that 61% has dependent pattern of use for 5 years and more.[2]

Korlakunta et al reported in their study the age group at their first drink. In that they stated that 41.6% started alcohol between 21 -25 years, 27.4% in less than 20 years and 20% at 30 years and above. And also they found 38.4%

were become dependent on alcohol at 30 years and above and another 35.8% by 21 – 25 years.[71]

Ganesh Kumar et al did a study in 2013 about the pattern of alcohol use in a rural village of Tamilnadu. They also found that most people were in 15 – 44 years of age, mean age at first drink was 25.3 years with standard deviation of 9.0. The low education, low income, male genders were all found to be associated significantly with alcohol use problems.[72]

John et al did a study with 245 men, they found that the mean age of presentation was 42.2% years, the mean schooling was 7.6 years, 71.9% were married and 54.2% were in nuclear families. This also goes in hand with our study that 67% married, 65% in nuclear family, 75% below 10th standard.[73]

Korlakunta et al stated that 44% patients admitted that craving as their reason for relapse. Connors et al in 1998 did a study on the onset of relapse and termination relapse. They found that the factors contributing to relapse were desire to drink, psychological cravings, spouse or partner's factors and feeling down. And for termination of relapse they found that it was associated with a decision to stop. In our sample, we found that only 19% accept craving as reason for their relapse. They stated that family problems (57%) and peer pressure (39%) were the reasons for relapse.

In a study done by Nagaich et al stated that 97.9% of their samples were married the more responsibilities and less bonding with family cause them to restart their drinking habit. Our study confirmed this that 57% admitted that

their family problems were being the reason for their relapse. In their study they found that 50.3% maintained abstinence for 2 – 6 months 38.9% for 7 – 12 months, 2.1% 13 – 18 months 1.1% 19 – 24 months and just 1.6% for 2 years 4 above most of them stated craving as their reason. In our study also we found 47% were maintained the abstinence up to 2 – 6 months, 68% till 1 year and 8% for more than 2 years[9].

A study by Kaundal et al also stated that the risk of relapse is high among people who have previous relapse and also the positive history of alcohol use in family. In the same study they found various parameters for relapse. 1. Time to lapse 76.40 ± 17.35 days, time to relapse 138.40 ± 31.38 days, time taken to seek help after relapse 420 ± 119.31 days and SADQ score was 9.49 ± 3.89.[74]

In regarding delay in treatment seeking 58% stated other social network delayed their treatment. Majority stated their own psychological influences particularly lack of control (56%) delayed their presentation to treatment. Only 28% stated that treatment related belief as barriers and another 12% stated the service proximity as their barrier to seek treatment. Saunders et al did a study on assessing treatment barrier concluded that important were person - related rather than treatment related delay factors.[75]

Cunningham et al did a study on barriers to treatment in they concluded that the person related belief that their alcohol drinking is not a concern or not a problem is the important factor that delay their treatment.

Similarly in DUSOCS scales, social support were more among those who report early to treatment. This finding was again supported by various other studies. Vijayan et al did a study on alcohol dependents and their social support. They concluded that wellbeing in marriage help the alcohol dependent persons to recover from their addiction; they relapse less and cope better in their future. On the contrary, marital conflicts perceived as a deficit in support as well as stressor on chronic basis.[76]

Another study by Dixit et al on social support concluded that many alcohol dependent subjects have dysfunctional relationship in workplace as well as family. They stated that abstinent group has better support than who relapse[77].

On comparing sociodemographic features between early and late treatment seekers, we found there was only significant difference noted in age and occupation.

CONCLUSION

- Alcohol relapse is more common in the age group 31 – 45 years, more among males, majority were unskilled and semiskilled workers and belonging to lower educational status.
- And majority of the subjects who relapse were married and live in nuclear family.
- Majority were started to consume alcohol below the age of 20 years, become dependent in the next 10 years i.e. 20 – 30 years.
- Those who relapse after treatment were severely dependent on alcohol.
- Nearly half of the subjects maintained abstinence after de-addiction treatment only for 6 months. About 2/3rd maintained abstinence for a year. Only 8% maintained abstinence for more than 2 years.
- The following were the first 3 reasons for relapse elicited in our sample

    1. Family problems (57%)
    2. Peer pressure (39%)
    3. Craving (19%)

- While delaying treatment after relapse, only 27% reported within 3 months of relapse, nearly half of the people report by 3 – 6 months. Nearly 50% delay their treatment for more than 6 months after relapse.

- Person related factors like doubting the need for treatment, stigma were the important factors delaying the treatment rather than treatment related factors.
- Those who seek treatment within 6 months of relapse have more social support and less stress.
- Similarly emotional problem and positive expectancy to alcohol more among late treatment seekers.

STRENGTH OF THE STUDY

- ☐ Adequate sample were taken according to sample size calculation.
- ☐ The scales used in this study has good internal consistency and inter rater reliability.
- ☐ Majority of findings were similar to the previous studies.
- ☐ By understanding the reasons for relapse and delay for treatment seeking make us to focus our intervention targeting those factors.

LIMITATIONS

- The treatment details i.e pharmacotherapy and psychotherapy received by the subjects previously were not taken into consideration in this study.
- Comorbid other substance use were not taken into account.
- Comorbid psychopathology, intensity of withdrawal symptoms was not measured.
- Impairments in their personal, occupational or social functioning were not considered in this study.

FUTURE DIRECTIONS

- This study can be done prospectively following the subjects after de-addiction treatment and the course of their abstinence.
- Also this can be done with various treatment modalities during de-addiction and their effectiveness during abstinence.

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SOCIO DEMOGRAPHIC PROFILE

NAME:
AGE:
GENDER: MALE FEMALE TRANSGENDER

OCCUPATION: EMPLOYED UNEMPLOYED

EDUCATION: ILLITRATE PRIMARY SCHOOL HIGH SCHOOL
HIGHER SECONDARY GRADUATE

LOCALITY: RURAL URBAN URBAN SLUM

MARITAL STATUS: SINGLE MARRIED DIVORCED
WIDOW

TYPE OF FAMILY: NUCLEAR JOINT EXTENDED

DISTRIBUTION OF RELAPSED PATIENT ACCORDING TO DEPENDENT VARIABLES

AGE AT FIRST DRINK: < 20 YRS
20 - 30 YRS
30 – 40 YRS
> 40 YEARS

AGE AT DEPENDENCE: < 20 YRS
20 - 30 YRS
30 – 40 YRS
> 40 YEARS

DURATION OF DEPENDENCE: < 5 YRS
6-10 YRS
11- 15 YRS
>15 YRS

ANY OTHER DIAGNOSIS : NO OTHER DIAGNOSIS
DEPRESSION
ANXIETY DISORDER
BIPOLAR AFFECTIVE DISORDER

DURATION OF ABSTINENCE: 2-6 MONTHS

7-12 MONTHS

13- 18 MONTHS

19 -24 MONTHS

>2 YEARS

POOR MOTIVATION	
CRAVING	
PEER PRESSURE	
FAMILY PROBLEMS	

REASON FOR RELAPSE

REASON FOR DELAY

SOCIAL INFLUENCE:

1) SPOUSE
2) OTHER SOCIAL NETWORK (FRIENDS, FAMILY MEMBERS)
3) ATTITUDE TOWARDS DRINKING AND HELP SEEKING BEHAVIOR

PSYCHOLOGICAL INFLUENCE /PERSONAL ATTITUDES AND BELIEFS:

1) NOT A SERIOUS PROBLEM
2) DENIAL
3) NOT DECIDED TO STOP DRINKING YET
4) PERSONAL STIGMA
5) LACK OF CONTROL

SUTUATIONAL INFLUENCE:

1) UNSUITABLE LIVING CONDITION
2) DRUG ABUSE
3) CRIMINALITY
4) PHYSICAL AND MENTAL HEALTH

ACCESS BARRIERS:

1) PROXIMITY OF SERVICE
2) TREATMENT RELATED BELIEFS AND BARRIERS

INFORMATION TO PARTICIPANTS

Title : " A STUDY OF VARIOUS FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA-GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE "

Principal Investigator : Dr. M.RAMKUMARVIHRAM. II Year, MD Psychiatry Post Graduate,Madras Medical College, Chennai.

Name of Participant :

Site : INSTITUTE OF MENTAL HEALTH, MMC, Chennai.

You are invited to take part in this research. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

What is the purpose of research?

Relapse in Alcohol dependence is very common. There are many factors contributing to relapse. We want to study various psycosocial factors contributing relapse in alcohol dependence subjects. To study various factors influencing delay in treatment seeking among relapsed subjects.

We have obtained permission from the Institutional Ethics Committee.

The study design :

You will be interviewed while you are attending our hospital.

Study procedures :

We will be interviewing you with various questionnaires. You will be required to spare roughly one and half an hour for a one-time interview.

Possible benefits to other people :

The results of research may provide benefits to the society in terms of advancement of medical knowledge and / or therapeutic benefit to future patients.

Confidentially of the information obtained from you :

You have the right to confidentially regarding the privacy of your medical information (personal details, results of physical examinations, investigations, and your medical history). By signing this document, you will be allowing the research team investigations, other study personnel and the Institutional Ethics Committee, to view your data, if required.

The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

How will your decision to not participate in the study affect you?

Your decision not to participate in this research study will not affect your medical care or your relationship with the investigator or the institution. You will be taken care of and you will not lose any benefits to which you are entitled.

Can you decide to stop participating in the study once you start?

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during the course of the study without giving any reasons. However, it is advisable that you talk to theresearch team prior to stopping the treatment / discontinuing of procedures etc.

Signature of Investigator : Signature of Participant

Date : Date :

INFORMED CONSENT FORM

Title : " A STUDY OF VARIOUS FACTORS CONTRIBUTING RELAPSE IN ALCOHOL DEPENDENCE AND INTRA-GROUP COMPARISON FOR FACTORS INFLUENCING DELAY IN TREATMENT SEEKING AFTER RELAPSE "

Name of the Participant :

Name of Principal Investigator : Dr. M.RAMKUMARVIHRAM

Name of Institution : IMH, MMC, Chennai.

Name and address of the sponsor / agency(ies), if any: _____

I _____(name of participant), have read the information in this form (or it has been read to me). I was free to ask any questions and they have been answered. I am exercising my free power of choice, hereby give my consent to be included as a participant in " A study of various factors contributing relapse in alcohol dependence and intra-group comparision for factors influencing delay in treatment seeking after relapse ".

1) I have read and understood this consent form and the information provided to me.

2) I have had the consent document explained to me.

3) I have been explained about the nature of the study.

4) I have been explained about my rights and responsibilities by the investigator.

5) I have informed the investigator of all the treatments I am taking or have taken in the past, including any native (alternative) treatments.

6) I am aware of the fact that I can opt out of the study at any time without having to give any reason and this will not affect my future treatment in the hospital.

7) I hereby give permission to the investigators to release the information obtained from me as a result of participation in this study to the regulatory authorities, Government agencies, and ethics committee. I understand that they may inspect my original records.

8) I understand that my identity will be kept confidential if my data are publicly presented.

9) I have had my questions answered to my satisfaction.

10) I consent voluntarily to participate as a participant in the research study.

I am aware, that I can opt out of the study, I should contact the investigators. By signing this consent from, I attest that the information given in this document has been clearly explained to me and understood by me. I will be given a copy of this consent document.

For adult participants :

Name and signature / thumb impression of the participant (or legal representative if participant is incompetent):

(Name)_____ (Signature) _____Date:_____

Name and signature of impartial witness (required for illiterate patients):

(Name)_____ (Signature) _____Date:_____

Address and contact number of the impartial witness:_____

Name and signature of the investigator or his representative obtaining consent:

(Name)_____ (Signature) _____Date:_____

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சி தலைப்பு:

ஆராய்ச்சியாளர் : மரு. மு. ராம்குமார்விக்ரம்

பங்குகொள்பவர் பெயர் :

இடம் : அரசு மனநல காப்பகம்

சென்னை- 600010

தாங்கள் இந்த ஆராய்ச்சியில் பங்குபெறுவதற்கேற்ப தகவல்கள் கொடுக்கப்பட்டுள்ளது. தங்கள் சந்தேகங்களை கேட்டு அறிந்து கொள்ளலாம்.

ஆராய்ச்சியின் நோக்கம் :

பதை்கை அடிமையானவர்கள் மீண்டும் மீண்டும் அதை நாடுவதற்கான பல்வேறு காரணிகளை ஆராய்தல்.

மீண்டும் சிகிச்சைக்கு வரும் கால தாமதத்திற்கான காரணிகளை குழுவினர்களிடையே ஒப்புமை ஆராய்ச்சி செய்தல்.

ஆராய்ச்சி முறை:

எங்களுடைய மருத்துவமனையை அணுகும் பொழுது உங்கள் விருப்பத்துடன் நேர்காணல் செய்யப்படும். நீங்களும் இந்த ஆராய்ச்சியில் பங்கேற்க விரும்புகிறோம்.

இந்த ஆய்வின் முடிவுகளை ஆராய்ச்சியின் பதிலை அல்லது ஆராய்ச்சியின் முடிவின் பதிலை தங்களுக்கு அறிவிக்கப்படும் என்பதனை தெரிவித்துக்கொள்கிறோம்.

இந்த ஆராய்ச்சியில் பங்குகொள்வதை தங்களுடைய விருப்பத்தின் பேரில் தான் இருக்கிறது. மேலும் நீங்கள் எந்நேரமும் இந்த ஆராய்ச்சியில் இருந்து பின் வாங்கலாம் என்பதனை தெரிவித்துக்கொள்கிறோம்.

முடிவுகளை அல்லது கருத்துகளை வெளியிடும் பொழுதோ அல்லது ஆராய்ச்சியின் பொழுதோ தங்களது பெயரையோ அல்லது அடையாளங்களையோ வெளியிட மாட்டோம் என்பதனை தெரிவித்துக்கொள்கிறோம்.

ஆராய்ச்சியாளர் கையெழுத்து: பங்குகொள்பவர் கையெழுத்து:

இடம் & தேதி :

:

ஆராய்ச்சி ஒப்புதல் கடிதம்

ஆராய்ச்சி தலைப்பு:

பங்கு கொள்பவர் பெயர்:

ஆராய்ச்சியாளர் : மரு. மு. ராம்குமார்விக்ரம்

மருத்துவநிலையம்: அரசு மனநல காப்பகம்

சென்னை- 600010

…….. என்னும் நான் எனக்கு கொடுக்கப்பட்ட தகவல் தாளினை படித்து புரிந்துகொண்டேன். என்னுடைய சுயநினைவுடனும் மற்றும் முழு சுதந்திரத்துடனும் இந்த ஆராய்ச்சியில் என்னை சேர்த்துக்க கொள்ள சம்மதிக்கிறேன்.

எனக்கு இந்த ஆராய்ச்சியின் ஒப்புதல் படிவம் விளக்கப்பட்டது.

எனக்கு இந்த ஆராய்ச்சியின் நோக்கமும், விவரங்களும் விளக்கப்பட்டது.

எனக்கு என்னுடைய உரிமைகளை பற்றி விளக்கப்பட்டது.

நான் இதுவரை கேட்டுக்க கொண்ட அனைத்து மருத்துவ முறைகளைப் பற்றி தெரிவித்திருக்கிறேன்.

இந்த ஆராய்ச்சியில் இருந்து எதுநேரமும் பின் வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்துகொண்டேன்.

என்னை பற்றிய எந்த தகவல்களும், அடையாளமும் வெளியிடப்பட மாட்டாது என்பதை புரிந்துக கொண்டேன்.

என்னை பற்றிய எந்த தகவல்களும், அடையாளமும் வெளியிடப்பட மாட்டாது என்பதை நான் புரிந்துக கொண்டேன். என்னுடைய முழு சுதந்திரத்துடனும் இந்த ஆராய்ச்சியில் என்னை சேர்த்துக்க கொள்ள சம்மதிக்கின்றேன்.

பங்கேற்பாளர் பெயர் மற்றும்
கையெழுத்து……தேதி :……

ஆராய்ச்சியாளர் பெயர் மற்றும் கையெழுத்து ..... தேதி :
.....

SEVERITY OF ALCOHOL DEPENDENCE QUESTIONAIRE (SADQ-C)[1]

NAME_____AGE_____No._____

DATE: _____

Please recall a typical period of heavy drinking in the last 6 months.

When was this? Month:..... Year.....

Please answer all the following questions about your drinking by circling your most appropriate response.

During that period of heavy drinking

1. The day after drinking alcohol, I woke up feeling sweaty.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

2. The day after drinking alcohol, my hands shook first thing in the morning.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

3. The day after drinking alcohol, my whole body shook violently first thing in the morning if I didn't have a drink.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

4. The day after drinking alcohol, I woke up absolutely drenched in sweat.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

5. The day after drinking alcohol, I dread waking up in the morning.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

6. The day after drinking alcohol, I was frightened of meeting people first thing in the morning.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

7. The day after drinking alcohol, I felt at the edge of despair when I awoke.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

8. The day after drinking alcohol, I felt very frightened when I awoke.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

9. The day after drinking alcohol, I liked to have an alcoholic drink in the morning.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

10. The day after drinking alcohol, I always gulped my first few alcoholic drinks down as quickly as possible.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

11. The day after drinking alcohol, I drank more alcohol to get rid of the shakes.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

12. The day after drinking alcohol, I had a very strong craving for a drink when I awoke.

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

13. I drank more than a quarter of a bottle of spirits in a day (OR 1 bottle of wine OR 8 units of beers).

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

14. I drank more than half a bottle of spirits per day (OR 1.5 bottles of wine OR 15 units of beer).

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

15. I drank more than one bottle of spirits per day (OR 3 bottles of wine OR 30 units of beer).

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

16. I drank more than two bottles of spirits per day (OR 6 bottles of wine OR 60 units of beer)

ALMOST NEVER *SOMETIMES* *OFTEN* *NEARLY ALWAYS*

Imagine the following situation:
1. You have been **completely off drink for a few weeks**
2. You then drink **very heavily** for **two days**

How would you feel the **morning after** those two days of drinking?

17. I would start to sweat.

NOT AT ALL *SLIGHTLY* *MODERATELY* *QUITE A LOT*

18. My hands would shake.

NOT AT ALL *SLIGHTLY* *MODERATELY* *QUITE A LOT*

19. My body would shake.

NOT AT ALL *SLIGHTLY* *MODERATELY* *QUITE A LOT*

20. I would be craving for a drink.

NOT AT ALL *SLIGHTLY* *MODERATELY* *QUITE A LOT*

SCORE _____

CHECKED BY:

ALCOHOL DETOX PRESCRIBED: YES/NO

Date (mm/dd/yyyy): / /

Name: (Inpatient • Outpatient)

ARRS Please describe your state during the past week.

For each statement below, please circle one answer that best describes you.

Please circle one from (×, △, ○)

	Strongly Disagree and Disagree	Neither Agree nor Disagree	Strongly Agree and Agree
Ex.) I sleep well.	×	△	○
【Stimulus-induced vulnerability: SV】			
3) It would be difficult for me to refuse if someone placed alcohol in front of me.	×	△	○
13) If someone held alcohol under my nose, I would not be able to refuse it.	×	△	○
16) I would drink alcohol if my friends offered it to me on a street.	×	△	○
18) I would drink alcohol if I am alone.	×	△	○
20) If my friend gave me alcohol, I would drink it even in the hospital.	×	△	○
23) If alcohol is placed in front of me, I would drink it.	×	△	○
27) I might drink alcohol at a party or a gathering.	×	△	○
31) I will drink alcohol in near future.	×	△	○
32) I want to drink alcohol even if it deteriorates my health.	×	△	○
【Emotionality problems: EP】			
2) I am annoyed by words from others.	×	△	○
4) I am irritated.	×	△	○
7) I am not motivated to do anything.	×	△	○
11) I feel lonely.	×	△	○
14) I feel bored.	×	△	○
17) I am anxious about my future,	×	△	○
21) I cannot control my feeling.	×	△	○
22) I have significant job-related problems.	×	△	○
【Compulsivity for alcohol: CA】			
6) I would do almost anything in order to drink alcohol.	×	△	○
26) I would do anything to get money for alcohol.	×	△	○
29) I want alcohol even if I have to steal.	×	△	○

【Lack of negative expectancy for alcohol: NE】

5) If I drink a small amount of alcohol, I would not be able to stop drinking. (R)…… × △ ○
12) I would not be able to control myself if I drink alcohol. (R) …… × △ ○
19) If I drink alcohol, it would badly influence my job. (R) …… × △ ○
25) I would feel restless if I drank alcohol. (R)…… × △ ○

【Positive expectancy for alcohol: PE】

15) Alcohol would save me from feeling lonely. …… × △ ○
28) If I drink alcohol, I will feel everything is going well.…… × △ ○
30) If I drink alcohol, I will feel invigorated. …… × △ ○

【Insight into mental conditions】

1) I can stop drinking alcohol by myself. (R) …… × △ ○
8) I am confident that I would not drink alcohol again. (R) …… × △ ○
9) I would be fine without alcohol. (R)…… × △ ○
10) I have already recovered from alcohol abuse. (R)…… × △ ○
24) I think I am an addict.…… × △ ○

(R)= reversal item.

【Practical notes】

- Item numbers in this manual correspond to those in the scale.
- If the contents of items and the instruction are not changed, you can change the format of this scale to fit the situations.
- For the sake of preventing the order effect, you can rearrange the order of items randomly.
- Each item is rated as below; ×= 1, △= 2, ○= 3 (reversal item: ×= 3, △= 2, ○= 1)
- Each subscale score is rated by simple average score (or total score).
- The total score of ARRS is rated by average score (or total score) of five subscale scores.
- Items of "Insight into illness" are used supplementarily. Individuals with extremely low score of "Insight into illness" (e.g. average score is 1 point) may deny their illness.

DUKE SOCIAL SUPPORT AND STRESS SCALE (DUSOCS)

Date Today:_____ **Name:**_____ **ID#:**_____
Date of Birth:_____ **Female**__ **Male**__

PAGE 1: SUPPORT

I. People Who Give Personal Support

[A supportive person is one who is helpful, who will listen to you, or who will back you up when you are in trouble.]

INSTRUCTIONS: Please look at the following list and decide how much each person (or group of persons) is supportive for you at this time in your life. Check (T) your answer.

How supportive are these people now:	None	Some	A Lot	There is No Such Person
1. Your wife, husband, or significant other person	_____	_____	_____	_____
2. Your children or grandchildren.....	_____	_____	_____	_____
3. Your parents or grandparents	_____	_____	_____	_____
4. Your brothers or sisters	_____	_____	_____	_____
5. Your other blood relatives.....	_____	_____	_____	_____
6. Your relatives by marriage (for example: in-laws, ex-wife ex-husband)	_____	_____	_____	_____
7. Your neighbors	_____	_____	_____	_____
8. Your co-workers.....	_____	_____	_____	_____
9. Your church members	_____	_____	_____	_____
10. Your other friends.....	_____	_____	_____	_____

	Yes	No
11. Do you have one particular person whom you trust and to whom you can go with personal difficulties?.....	_____	_____

12. If you answered "yes", which of the above types of person is he or she? (for example: child, parent, neighbor)_____

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PAGE 2: STRESS

II. People Who Cause Personal Stress

[A person who stresses you is one who causes problems for you or makes your life more difficult.]

INSTRUCTIONS: Please look at the following list and decide how much each person (or group of persons) is a stress for you at this time in your life. Check (T) your answer.

How stressed do you feel by these people now:	None	Some	A Lot	There is No Such Person
1. Your wife, husband, or significant other person	_____	_____	_____	_____
2. Your children or grandchildren.....	_____	_____	_____	_____
3. Your parents or grandparents	_____	_____	_____	_____
4. Your brothers or sisters	_____	_____	_____	_____
5. Your other blood relatives.....	_____	_____	_____	_____
6. Your relatives by marriage (for example: in-laws, ex-wife ex-husband).....	_____	_____	_____	_____
7. Your neighbors	_____	_____	_____	_____
8. Your co-workers.....	_____	_____	_____	_____
9. Your church members.....	_____	_____	_____	_____
10. Your other friends.....	_____	_____	_____	_____

	Yes	No
11. Is there one particular person who is causing you the most personal stress now?	_____	_____

12. If you answered "yes", which of the above types of person is he or she? (for example: child, parent, neighbor) _____

S.No	NAME	AGE	SEX	OCCUPATION	EDUCATION	LOCALITY	MARITAL STATUS	TYPE OF FAMILY	AGE AT FIRST DRINK	AGE AT DEPENDENCE	DURATION OF DEPENDENCE	Severity of dependense	CMI	DURATION OF ABSTINENCE	REASON OF RELAPSE	DURATION OF DELAY	SOCIAL INFLUENCE	PSYCHOLOGICAL INFLUENCE	SUTUATIONAL INFLUENCE	ACCESS BARRIERS	DUSCOCS						ARRS					
																					FS	NFS	SS	FS	NFS	SS	SV	EP	CA	NE	PE	I
1	Madhanagopal	34	1	3	3	2	2	1	1	2	1	3	1	1	4	3	4	5	5	3	35.71	10	22.27	42.85	0	27.27	2.3	2.75	2.3	1	3	1.4
2	Ravikumar	34	1	4	3	1	2	1	1	2	1	3	1	1	2	1	3	4,5	5	2	35.71	0	22.72	21.42	0	13.63	2.33	1.77	1	1	3	1.2
3	Perumal	50	1	3	1	1	2	1	2	3	4	2	1	1	3	3	2	3	5	1	57.14	40	54.54	28.54	0	18.18	2.44	2.62	1	2.5	2.33	3
4	Juli	55	2	3	3	2	3	1	3	3	4	3	1	1	2,3	1	3	3,4,5	5	3	28.57	30	31.81	42.85	50	18.18	2.55	2.87	2.3	1	1	1.4
5	Kumar	52	1	3	3	2	2	2	2	3	3	2	1	3	4	1	4	4	5	2	57.14	50	45.45	30.67	0	27	1.44	2.62	1	1	1	1.4
6	Mathioli	47	1	3	3	3	2	1	1	2	4	3	1	5	3	3	2	5	5	3	64.28	30	54.54	50	30	45.45	2.55	2.62	2	3	3	1.6
7	Nagamani	46	2	2	2	2	4	1	2	2	4	2	1	2	4	3	2	4,5	5	3	28.57	20	40.9	0	0	27.27	2.33	2	2.3	1	3	3
8	Kuppayi	43	2	2	1	3	4	1	1	2	4	3	1	1	1,2,3	3	3	2,3,4,5	1	2	14.28	20	31.81	57.14	60	54.54	2.33	3	3	1	1	1.4
9	Rameshkumar	28	1	2	4	1	1	1		1	1	1	1	2	3	3	0	4	5	2	35.71	60	36.36	16.28	0	22.72	2.87	2.33	1.66	1	1	1.4
10	Subbu	53	1	3	2	1	2	1	1	2	3	2	1	1	4	3	0	3	5	2	42.85	10	27.27	35.71	0	27.27	1	1.62	1	2.3	1	3
11	Raja	43	1	3	3	1	2	2	1	2	4	3	1	5	4	3	2	5	1	1	57.14	30	50	42.85	0	27.27	2.55	2.75	1	3	1	2.6
12	Ravichandran	40	1	2	3	2	2	1	2	2	4	3	1	1	4	1	3	5	5	3	42.85	10	31.81	28.57	0	18.18	2.77	2.87	2	2.5	1	1.6
13	Mani	20	1	3	4	1	1	1	1	1	1	3	1	1	2,3	3	3	2	5	2	35.71	10	22.72	21.42	0	13.63	2.33	1.77	1	1	2.33	1.2
14	Alagesan	65	1	2	1	1	2	2	2	3	4	2	1	3	4	3	4	3	5	2	35.71	10	27.27	42.85	0	22.27	1	1.62	1	1	2.3	1.4
15	Babu	42	1	3	3	2	2	1	1	2	3	2	1	4	4	3	2	4	5	2	28.57	0	18.18	57.14	20	45.45	2.4	1.62	1	1	2.3	2.8
16	Thirumalai	33	1	2	2	2	2	2	1	1	4	3	1	2	3	3	2	5	1	1	92.85	40	77.27	0	40	18.18	2.44	2	1	2.5	2.33	3
17	Premavathi	48	2	3	3	2	3	1	2	3	4	2	1	1	2,3,4	3	3	3,4,5	5	2	28.57	30	31.81	28.57	0	18.18	2.55	2.87	2.3	1	1	1.4
18	Bhavansing	48	2	4	4	2	2	2	2	4	1	2	1	3	3	3	2	1	5	2	64.28	40	92.85	28.54	0	18.18	2.33	3	1	1	3	2.3
19	Natarajan	36	1	3	2	2	2	2	1	2	3	3	1	4	3	3	2	5	5	3	92.85	40	77.27	0	40	18.18	2.44	2	1	3	1	3
20	Kali	43	1	3	4	2	2	1	1	1	3	3	1	1	3,4	3	2	5	5	3	28.57	0	18.18	64.28	20	50	2.3	3	1	1	2.3	2.8
21	Raja	42	1	3	3	1	2	2	1	3	2	3	1	2	4	3	4	3	5	3	50	20	40.9	0	40	18.18	2.33	3	1	1	3	1.8
22	Amulraj	48	1	3	3	3	2	1	1	1	4	2	1	1	3	3	2	5	5	3	42.85	30	40.9	0	40	18.18	2.33	1.77	1	1	3	1.2
23	Pakkiri	60	1	3	1	1	2	2	2	2	4	3	1	1	3,4	3	2	5	5	1	42.85	0	27.27	71.42	30	59.09	2.55	2.75	1	1	3	2.6
24	Moses	41	1	4	4	2	2	2	1	2	1	2	1	5	3	3	2	3	5	2	64.24	30	54.54	10	40	22.72	1.6	1.75	1	1	3	1.8
25	Pari	49	1	4	4	2	2	1	1	2	3	3	1	2	4	3	4	5	5	3	27.54	30	50	71.42	30	51.09	3	3	2.3	1	3	1.8
26	Jeyakumar	49	1	2	2	2	3	1	1	2	4	3	1	4	4	3	2	5	1	3	42.87	40	45.45	42.85	0	27.27	1.44	2.62	1	1	1	1.4
27	Murugan	49	1	3	3	3	1	1	1	2	3	2	1	4	4	3	3	5	5	3	42.85	30	40.9	35.71	0	22.72	1	1.62	1	3	2.3	1.4
28	Naresh Kumar	33	1	2	3	2	3	1	1	1	4	3	1	2	3	3	2	5	1	1	92.85	40	77.27	0	40	18.18	2.44	2	1	2.5	2.33	3
29	Muthusamy	63	1	4	4	2	2	2	2	2	4	3	1	1	4	4	5	5	3	1	28.57	0	18.18	57.14	30	50	2.33	3	2.33	1	3	1.8
30	Murali	52	1	3	1	1	2	1	2	3	3	2	1	3	3	3	2	3	5	3	57.14	4	54.54	28.54	0	18.18	1.6	1.75	2	1	3	1
31	Venkatachalam	42	1	3	3	1	2	2	1	2	2	3	1	1	4	1	2	3	5	3	50	10	36.36	42.85	0	27.27	2.33	3	3	1	1	1.4
32	Ganesh	47	4	3	3	2	1	1	1	3	2	1	4	3	3	2	3	5	5	3	85.71	30	68.18	20	40	27.27	1.6	1.75	2	1	3	1

33	Pichaikali	59	1	3	3	2	2	1	2	3	2	2	1	3	3,4	1	2	5	5	3	35.71	40	36.36	0	30	18.18	1.6	3	1	1	3	1.4
34	Stephen	55	1	4	3	2	2	1	2	3	3	2	1	5	4	1	4	4	5	2	78.57	10	54.54	10	40	22.72	1.4	1.8	1	1.5	2.3	1.6
35	Akthar	22	1	3	3	2	1	1	1	1	1	3	1	1	2,3	4	2	5	1	3	28.57	0	18.18	57.14	30	50	2.7	2.75	3	1.5	3	1
36	Bharathi Raja	38	1	3	3	3	2	1	1	3	1	3	1	1	4	1	4	5	5	3	50	20	40.9	28.57	10	22.72	2.33	2.87	3	1.5	1	1.4
37	Ghandhi	34	1	4	3	1	2	1	1	2	1	3	1	1	2	1	3	4,5	5	2	35.71	0	22.72	21.42	0	13.63	2.33	1.77	1	1	3	1.2
38	Ajis	35	1	4	3	1	2	1	1	1	1	2	1	4	3	1	4	4	5	2	64.28	50	63.63	35.71	0	22.72	2.11	1.7	1	1	2	1
39	Mariyappan	26	1	3	4	1	1	2	1	1	1	3	1	2	2,4	4	2	5	5	1	28.57	30	31.81	57.14	10	40.9	2.44	2.75	1.6	1.5	3	2.2
40	Boobesh	36	1	3	3	2	2	2	2	2	1	2	1	2	4	2	3	1	1	2	28.57	0	18.18	42.85	20	36.36	1.5	2.25	1.6	1.75	1.6	1.2
41	Rameshkumar	32	1	3	3	2	1	1	1	2	1	3	1	1	4	3	2	3	1	3	14.28	60	36.36	35.71	0	22.72	2.33	2.87	1.66	1	1	1.4
42	Sekar	30	1	3	3	2	2	1	1	2	1	2	1	1	3,4	1	2	5	5	3	42.85	0	27.27	0	0	0	1	1.75	1	3	2.3	3
43	Palani	58	1	4	1	1	2	1	1	3	4	3	1	1	4	4	2	3,5	5	3	35.71	10	27.27	64.28	40	59.09	2.4	3	1	1	3	1.4
44	Mohammed ali	36	1	4	4	2	3	2	2	2	2	3	1	1	2,4	4	2	5	4	3	0	40	18.18	92.85	40	77.27	2.44	2.75	1.6	1.5	3	2.2
45	Amjath	25	1	4	4	3	1	1	1	1	1	3	1	1	2,3	4	2	5	1	3	35.71	50	45.45	28.57	70	50	2.4	3	1	1	3	1.4
46	Vijayabalan	35	1	3	3	1	2	2	1	3	1	3	1	1	4	3	4	3	5	3	27.27	40	45.45	27.27	0	27.27	2.77	2.87	3	1	1	1.8
47	Kanann	21	1	3	3	2	1	1	1	1	1	3	1	1	2,3	4	2	5	5	3	28.57	0	18.18	64.28	10	40.9	2.5	2.3	3	1.5	1	1
48	Vaithiyanathan	38	1	4	4	2	2	2	1	2	1	2	1	5	3	3	2	3	5	2	64.24	30	54.54	10	40	22.72	1.6	1.75	1	1	3	1.8
49	Meganathan	30	1	2	2	2	2	2	1	1	2	3	1	4	4	3	2	5	5	3	28.57	0	18.18	28.57	0	18.18	1.8	2	1.6	2	3	3
50	Rajesh	28	1	4	4	2	1	2	1	1	1	2	1	2	3	4	4	4	5	2	57.14	40	54.54	7.14	60	31.81	2.55	1.5	1.6	2	2.3	1.2
51	Mathivanan	42	1	3	3	3	3	3	1	2	2	2	1	2	1,4	2	4	5	5	3	57.14	60	63.63	28.57	0	27.27	1.88	1.5	2	2	1	3
52	Selvam	48	2	4	4	2	2	2	2	4	1	2	1	3	3	3	2	1	5	2	64.28	40	92.85	28.54	0	18.18	2.33	3	1	1	3	2.3
53	Nagappan	49	1	4	4	2	2	1	1	2	3	3	1	2	4	3	4	5	5	3	27.54	30	50	71.42	30	51.09	3	3	2.3	1	3	1.8
54	Sridhar	58	1	2	2	2	2	1	1	1	3	2	1	1	4	3	4	1	5	3	35.71	10	27.27	42.85	0	27.27	1	1.62	1	3	2.3	1.4
55	Daniel	24	1	4	5	2	1	1	1	1	1	3	1	1	2,3	4	2	4	5	2	42.85	40	45.45	28.57	90	59.09	2.4	3	2.33	1	3	1.4
56	Gananathan	49	1	2	2	3	2	1	1	2	2	3	1	2	3,4	1	2	5	5	3	28.57	0	18.18	28.57	40	36	36	2.62	1	3	3	1
57	Packiyanathan	32	1	4	4	1	2	1	1	2	1	2	1	2	3	1	2	4	5	2	50	20	40.9	28.57	10	22.72	2.33	1.62	1.6	1.5	3	1.4
58	Kuppusamy	53	1	3	3	3	1	1	1	2	3	2	1	4	4	3	3	5	5	3	42.85	30	40.9	35.71	0	22.72	1	1.62	1	3	2.3	1.4
59	Ramu	29	1	4	3	2	1	1	2	1	1	2	1	1	3	2	2	3	5	3	42.85	40	45.45	35.71	0	22.72	1	1.62	1.66	1	3	1.4
60	Vetrivel	48	1	3	1	1	2	1	2	3	4	2	1	1	3	3	2	3	5	1	57.14	40	54.54	28.54	0	18.18	2.44	2.62	1	2.5	2.33	3
61	Subramani	32	1	3	3	2	1	2	2	2	1	3	1	1	3	1	2	1	5	3	50	40	27.27	57.14	40	54.54	2.55	2	2.33	1.5	2.33	2.6
62	Velu	35	1	3	3	1	2	2	1	2	2	3	1	2	3	1	2	5	5	3	92.85	40	77.27	27.27	40	45.45	2.77	1.6	1.6	1	3	1.8
63	Shanmugam	61	1	2	1	1	2	2	2	3	4	2	1	3	4	3	4	3	5	2	35.71	10	27.27	42.85	0	22.27	1	1.62	1	1	2.3	1.4
64	Premkumar	44	1	3	3	2	2	1	1	3	3	3	1	1	4	1	4	1	1	3	64.28	10	40.9	28.57	0	18.18	2.5	2.3	3	1.5	1	1.4
65	Kolandhaisamy	51	1	3	3	3	2	1	1	2	4	3	1	5	3	3	2	5	5	3	64.28	30	54.54	50	30	45.45	2.55	2.62	2	3	3	1.6
66	Joseph	31	1	3	3	2	1	1	1	1	2	2	1	1	3	1	2	1,5	5	3	42.85	0	27.27	0	60	27.27	2.5	2.75	1.6	2	3	1.2
67	Arjun	23	1	4	4	3	1	1	1	1	1	3	1	1	2,3	4	2	5	1	3	35.71	50	45.45	28.57	70	50	2.4	3	1	1	3	1.4
68	Prakash	49	1	3	1	1	2	1	2	3	3	2	1	3	3	3	2	3	5	3	57.14	4	54.54	28.54	0	18.18	1.6	1.75	2	1	3	1
69	Sadagopan	47	1	4	4	2	2	2	2	2	1	2	1	3	2	2	2	4	5	3	64.28	30	54.54	42.85	0	27.27	2.3	2.12	1.3	1	2.3	1.4

70	Kanirajan	45	1	3	3	1	2	2	1	2	4	3	1	5	4	3	2	5	1	1	57.14	30	50	42.85	0	27.27	2.55	2.75	1	3	1	2.6
71	Suresh	30	1	3	3	2	2	1	1	2	1	2	1	1	3,4	1	2	5	5	3	42.85	0	27.27	0	0	0	1	1.75	1	3	2.3	3
72	Sundar	32	1	4	3	1	2	1	1	1	1	2	1	4	3	1	4	4	5	2	64.28	50	63.63	35.71	0	22.72	2.11	1.7	1	1	2	1
73	Praveenkumar	26	1	4	5	2	1	1	1	1	1	3	1	1	2,3	4	2	4	5	2	42.85	40	45.45	28.57	90	59.09	2.4	3	2.33	1	3	1.4
74	Anbazhagan	45	1	2	2	2	3	1	1	2	4	3	1	4	4	3	2	5	1	3	42.87	40	45.45	42.85	0	27.27	1.44	2.62	1	1	1	1.4
75	Jeyaraja	30	1	3	3	1	2	2	1	3	1	3	1	1	4	3	4	3	5	3	27.27	40	45.45	27.27	0	27.27	2.77	2.87	3	1	1	1.8
76	Selvakumar	41	1	3	3	2	2	1	1	2	2	2	1	4	4	3	4	3,5	5	3	42.87	50	50	35.71	0	22.72	2.3	2.12	1.3	1	2.3	1.4
77	Myilvanan	34	1	3	3	2	1	2	2	2	1	3	1	1	3	1	2	1	5	3	50	40	27.27	57.14	40	54.54	2.55	2	2.33	1.5	2.33	2.6
78	Rajendran	53	1	4	3	2	2	1	2	3	3	2	1	5	4	1	4	4	5	2	78.57	10	54.54	10	40	22.72	1.4	1.8	1	1.5	2.3	1.6
79	Bharani	43	1	4	4	2	2	2	2	2	1	2	1	3	2	2	2	4	5	3	64.28	30	54.54	42.85	0	27.27	2.3	2.12	1.3	1	2.3	1.4
80	Saravanan	32	1	3	3	1	2	2	1	2	2	3	1	2	3	1	2	5	5	3	92.85	40	77.27	27.27	40	45.45	2.77	1.6	1.6	1	3	1.8
81	Suresh	45	1	3	3	2	2	1	1	2	4	3	1	4	4	3	2	1	5	3	57.14	20	45.45	28.57	0	18.18	2.4	1,62	1	1	2.3	2.8
82	Balusamy	58	1	4	4	2	2	2	2	2	4	3	1	1	4	4	5	5	3	1	28.57	0	18.18	57.14	30	50	2.33	3	2.33	1	3	1.8
83	jegan	27	1	4	3	2	1	1	2	1	1	2	1	1	3	2	2	3	5	3	42.85	40	45.45	35.71	0	22.72	1	1.62	1.66	1	3	1.4
84	Senthikumar	55	1	3	1	1	2	2	2	2	4	3	1	1	3,4	3	2	5	5	1	42.85	0	27.27	71.42	30	59.09	2.55	2.75	1	1	3	2.6
85	Karthikeyan	26	1	2	4	1	1	1		1	1	1	1	2	3	3	0	4	5	2	35.71	60	36.36	16.28	0	22.72	2.87	2.33	1.66	1	1	1.4
86	Govindhan	50	1	3	3	2	2	1	1	3	3	3	1	1	4	1	4	1	1	3	64.28	10	40.9	28.57	0	18.18	2.5	2.3	3	1.5	1	1.4
87	Raji	56	1	4	1	1	2	1	1	3	4	3	1	1	4	4	2	3,5	5	3	35.71	10	27.27	64.28	40	59.09	2.4	3	1	1	3	1.4
88	Stalin	47	1	2	3	2	2	1	2	2	4	3	1	1	4	1	3	5	5	3	42.85	10	31.81	28.57	0	18.18	2.77	2.87	2	2.5	1	1.6
89	Alfons Dos	24	1	3	3	2	1	1	1	1	1	3	1	1	2,3	4	2	5	1	3	28.57	0	18.18	57.14	30	50	2.7	2.75	3	1.5	3	1
90	Mohan	34	1	4	4	1	2	1	1	2	1	2	1	2	3	1	2	4	5	2	50	20	40.9	28.57	10	22.72	2.33	1.62	1.6	1.5	3	1.4
91	Murugesan	55	1	2	2	2	2	1	1	1	3	2	1	1	4	3	4	1	5	3	35.71	10	27.27	42.85	0	27.27	1	1.62	1	3	2.3	1.4
92	Ilavarasan	42	1	3	3	3	2	1	1	3	1	3	1	1	4	1	4	5	5	3	50	20	40.9	28.57	10	22.72	2.33	2.87	3	1.5	1	1.4
93	Kailash	24	1	3	4	1	1	2	1	1	1	3	1	2	2,4	4	2	5	5	1	28.57	30	31.81	57.14	10	40.9	2.44	2.75	1.6	1.5	3	2.2
94	Risvan	38	1	3	3	2	2	1	1	2	2	2	1	4	4	3	4	3,5	5	3	42.87	50	50	35.71	0	22.72	2.3	2.12	1.3	1	2.3	1.4
95	Elumalai	45	1	2	2	3	2	1	1	2	2	3	1	2	3,4	1	2	5	5	3	28.57	0	18.18	28.57	40	36	36	2.62	1	3	3	1
96	PandiMahendran	31	1	2	2	2	2	2	1	1	2	3	1	4	4	3	2	5	5	3	28.57	0	18.18	28.57	0	18.18	1.8	2	1.6	2	3	3
97	Nagesh	35	1	4	4	2	3	2	2	2	2	3	1	1	2,4	4	2	5	4	3	0	40	18.18	92.85	40	77.27	2.44	2.75	1.6	1.5	3	2.2
98	Marthandam	49	1	3	2	1	2	1	1	2	3	2	1	1	4	3	0	3	5	2	42.85	10	27.27	35.71	0	27.27	1	1.62	1	2.3	1	3
99	Jegadesan	36	1	3	3	2	2	2	2	2	1	2	1	2	4	2	3	1	1	2	28.57	0	18.18	42.85	20	36.36	1.5	2.25	1.6	1.75	1.6	1.2
100	Venkatesan	43	2	2	2	2	4	1	2	2	4	2	1	2	4	3	2	4,5	5	3	28.57	20	40.9	0	0	27.27	2.33	2	2.3	1	3	3